

**ORGANIZATIONAL, INTERMEDIATE, AND DEPOT MAINTENANCE****DESCRIPTION AND PRINCIPLES OF OPERATION****A/P22P-21 CREW BACKPACK ASSEMBLY****PART NO. 3615AS0100-9****List of Effective Work Package Pages**

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**Reference Material**

None

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**Record of Applicable Technical Directives**

None

## 1. DESCRIPTION.

2. **GENERAL.** The A/P22P-21 Crew Backpack Assembly is designed to replace the NB-8 Backpack Assembly. The A/P22P-21 Crew Backpack Assembly is 18.5 inches in length, 14.75 inches wide, 6.0 inches thick, and weighs 17 pounds. The main canopy is a 26-foot extended skirt canopy, made from low-porosity material that is vacuum sealed to protect the main canopy from physical and environmental hazards. The canopy assembly consists of a main canopy, cross connector straps, a slider, diaper, steering handles, upper risers, and suspension lines made of Spectra material. The container is made up of Cordura material and is used to store the sealed canopy assembly and pilot parachute. The harness is used for securing and supporting the crewmember.

3. **CONFIGURATION.** The A/P22P-21 Crew Backpack Assembly has only one configuration and that is shown in Figure 1. Refer to the Illustrated Parts Breakdown WP 027 04 for the exact configuration requirements.

4. **SUBASSEMBLY CONFIGURATION.** The sub-assemblies listed below make up the A/P22P-21 Crew Backpack Assembly and are shown in Figure 1. Refer to the Illustrated Parts Breakdown WP 027 04 for the exact configuration requirements.

Pilot Parachute Assembly

Pilot Parachute Bridle Cord

Sealed Canopy Bridle Cords

PCU-71/P22P-21 Sealed Canopy Assembly

Harness/Container Assembly

Ripcord and Ripcord Housing

## 5. PRINCIPLES OF OPERATION.

6. **MANUAL OPERATION.** After emergency bail-out, the following operation takes place:

a. The aircrew manually pulls the ripcord handle which removes the ripcord pin from the closing loop to initiate the parachute deployment process. This allows the spring loaded pilot parachute to open the flaps and spring out into the air current.

b. The aircrew falls away from the inflated pilot parachute, causing the pilot parachute bridle cord to pull on the sealed canopy bridle cords. This action tears open the vacuum-sealed bag, causing the suspension lines to be extracted from the deployment bag, followed by main canopy. Upon main canopy deployment, a slider attached to the suspension lines will slide down the suspension lines toward the aircrew to reduce canopy opening shock. The main canopy begins to inflate during this operation.

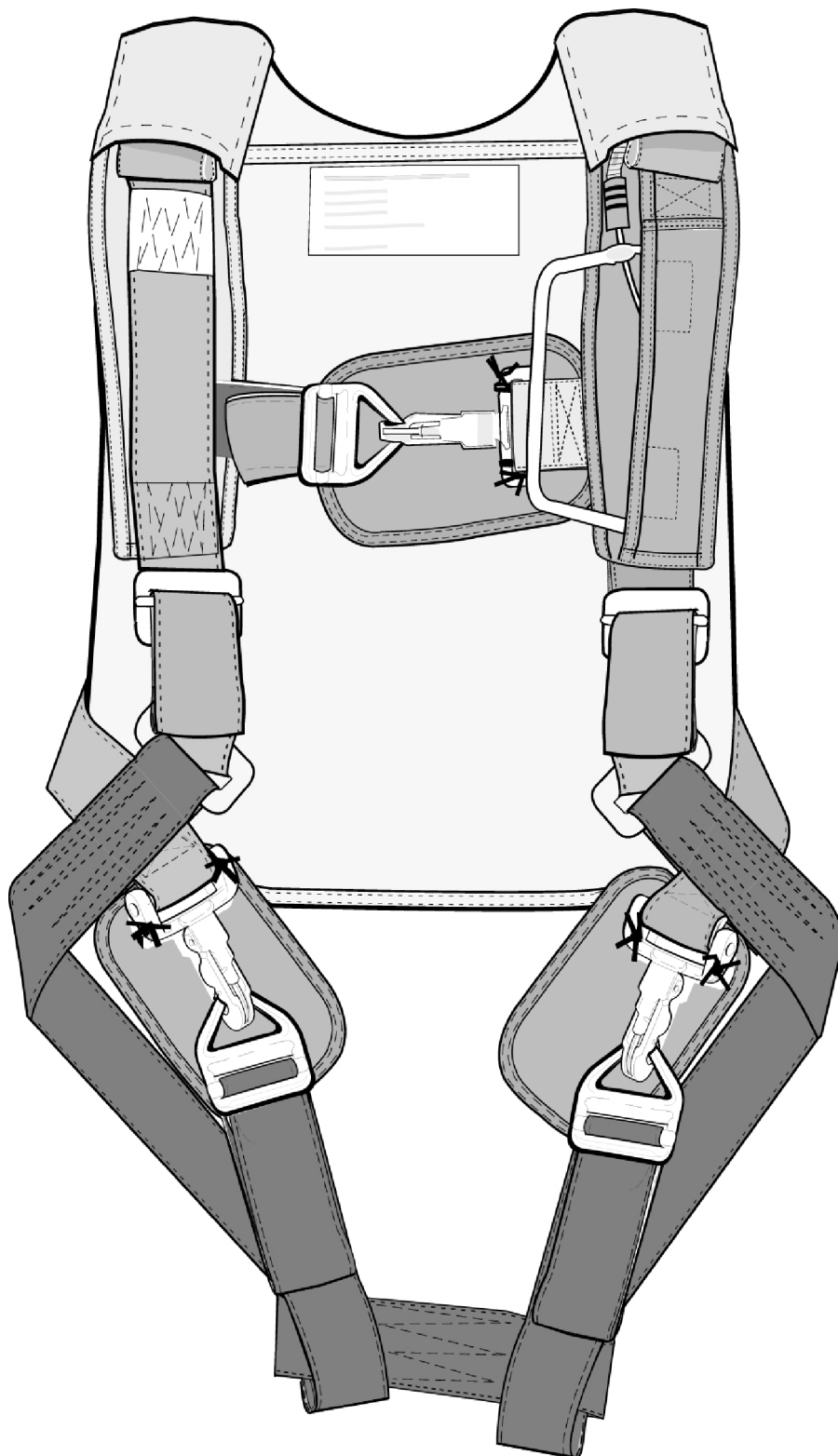
c. Force is applied to the soft links, causing the main canopy to inflate. The aircrew descends, suspended in the harness.

d. During descent, the aircrew can use the steering handles located on the back side of the rear risers to maneuver the parachute to a less hazardous landing site.

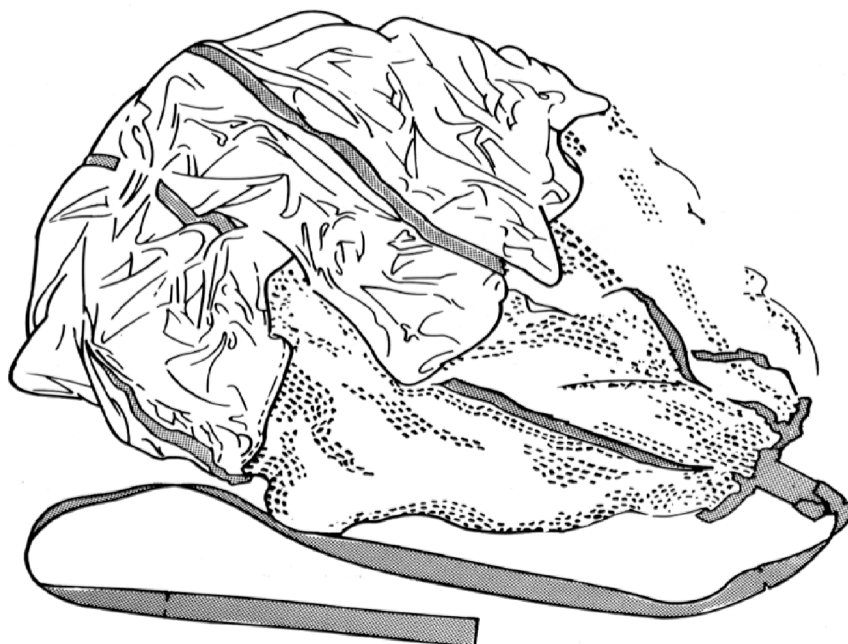
e. Upon landing, the aircrew releases the A/P22P-21 Crew Backpack Assembly by opening the three parachute harness snap ejectors (Chest and 2 leg straps).

## 7. REPLACEMENT SCHEDULE.

a. Scheduled replacement of the PCU-71/P22P-21 Sealed Canopy Assembly is 2008 days.



**Figure 1. A/P22P-21 Crew Backpack Assembly (Sheet 1 of 3)**

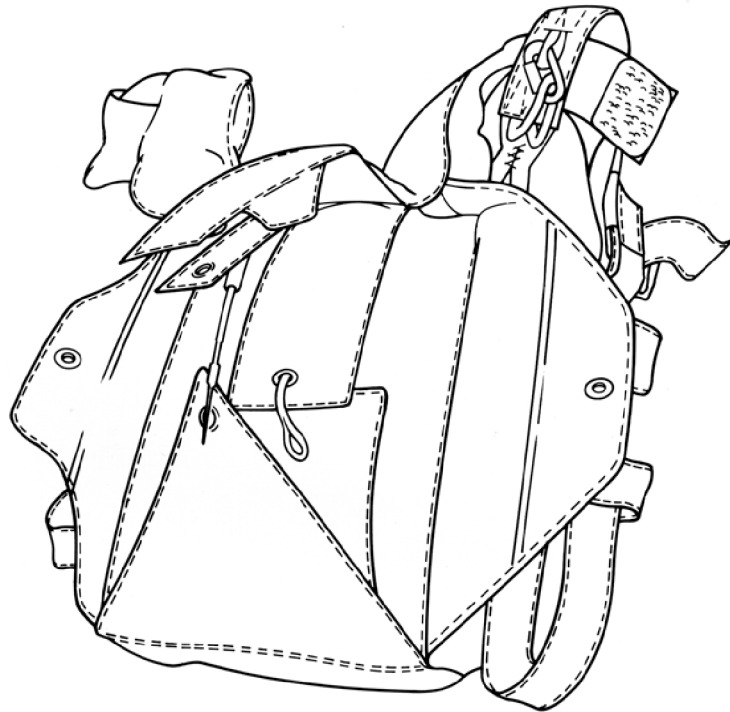


PILOT PARACUTE AND PILOT PARACHUTE BRIDLE CORD

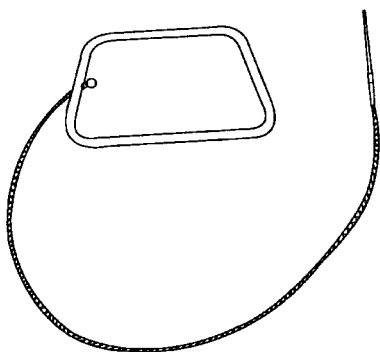


PCU-71/P22P-21 SEALED CANOPY ASSEMBLY AND SEALED CANOPY BRIDLE CORDS

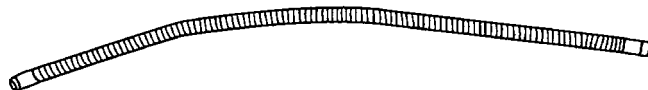
**Figure 1. A/P22P-21 Crew Backpack Assembly (Sheet 2 of 3)**



HARNESS/CONTAINER ASSEMBLY



RIPCORD ASSEMBLY



RIPCORD HOUSING

Figure 1. A/P22P-21 Crew Backpack Assembly (Sheet 3 of 3)

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**ORGANIZATIONAL MAINTENANCE****REPAIR PROCEDURES****A/P22P-21 CREW BACKPACK ASSEMBLY****PART NO. 3615AS0100-9****List of Effective Work Package Pages**

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**Reference Material**

Illustrated Parts Breakdown, A/P22P-21 Crew Backpack Assembly .....	WP 027 04
Parachute Loft Requirements/Administration .....	WP 003 00

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**Record of Applicable Technical Directives**

<u>Type/No.</u>	<u>Date</u>	<u>Title and ECP No.</u>	<u>Date Inc.</u>	<u>Rescission Date</u>
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## 1. INTRODUCTION.

a. This work package (WP) contains instructions for Organization level to ensure that the A/P22P-21 Crew Backpack Assembly remains in Ready-For-Issue (RFI) status.

b. When performing repairs detailed in this WP, follow these guidelines:

(1) Review all applicable instructions prior to starting repairs.

(2) Ensure all necessary support equipment and materials required are available prior to starting repairs.

(3) When required remove enough material from its source for immediate use only. Ensure that the material identification ticket remains with the source material at all times. Material that cannot be identified will not be used.

(4) To ensure conformity, all repair work shall be carefully inspected and compared to applicable instructions at completion of work.

(5) A Quality Assurance (QA) inspector shall examine the finished work.

## 2. PARACHUTE ASSEMBLY.

### 3. SEALED CANOPY ASSEMBLY.

a. If container assembly is soft (pillowed) when squeezed, this will indicate that the sealed canopy assembly has lost its vacuum.

#### NOTE

Loss of vacuum does not adversely affect the operation of the parachute assembly. The parachute assembly may remain in service until the completion of the deployment or when a replacement is made available.

b. Repair is limited to the removal of the parachute assembly from the aircraft and forwarding to the Intermediate Maintenance Department for replacement and disposition.

c. Initiate a Quality Deficiency Report (QDR), and info NAWCWD China Lake, Code 461000D.

## 4. HARNESS/CONTAINER REPAIR.

### 5. HARNESS/CONTAINER TACKING REPLACEMENT.

#### Support Equipment Required

Part Number	Nomenclature
-----	Needle, Sewing Curved

#### Materials Required

Specification or Part Number	Nomenclature
A-A-52080-B-2	Tape, Lacing & Tying Finish B, Size 2, Type I, Natural

#### WARNING

Do not tack the tuck flap to bottom parachute flap. Failure to follow this warning will result in parachute container not opening.

a. Tack using Tape, Lacing & Tying 12-in. long and a curved needle. Tack through tuck flap seam on outer top cover to top closing flap seam using one turn, single, tied with a surgeon's knot, followed by a square knot. Trim off excess. Repeat process on other side (Figures 1 and 2). (QA)

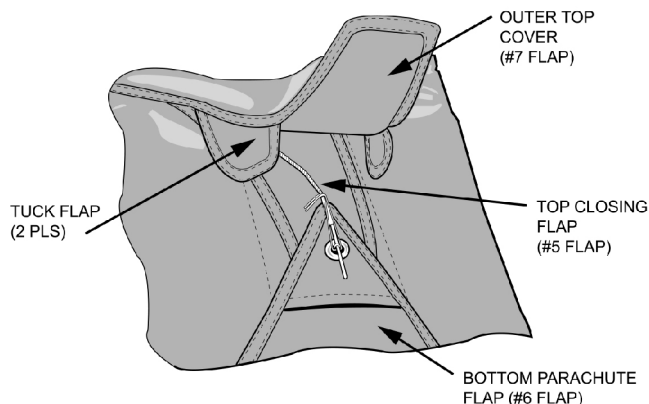


Figure 1. Tacking Tuck Flaps



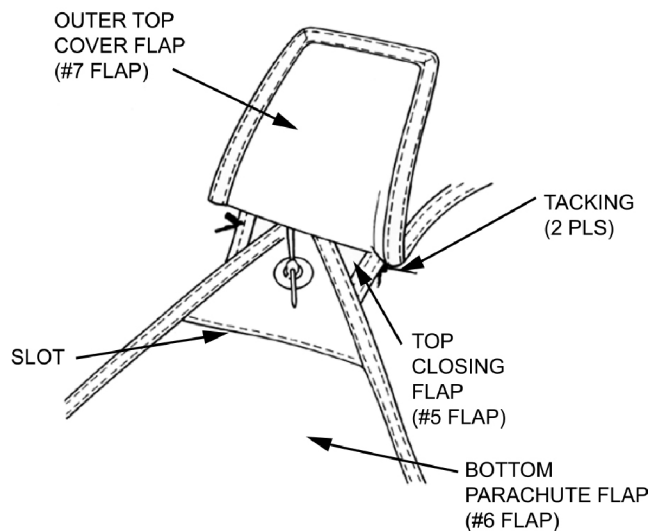


Figure 2. Tacking Tuck Flaps

b. Insert outer top cover flap end into bottom parachute flap slot.

## 6. CHEST STRAP SNAP EJECTOR TACKING REPLACEMENT.

### Support Equipment Required

Part Number Nomenclature

----- Needle, Sewing

### Materials Required

Specification or Part Number Nomenclature

A-A-52080-B-2 Tape, Lacing & Tying Finish B, Size 2, Type I, Natural

a. Cut tacking securing comfort pad to snap ejector (4 places). Retain comfort pad.

b. Tack using Tape, Lacing & Tying 12-in. long and a needle. Tack through chest strap snap ejector stiffener and around webbing slot of snap ejector using two turns, single, tied with a surgeon's knot, followed by a square knot. Trim off excess. Repeat process on other side (Figures 3 and 4).

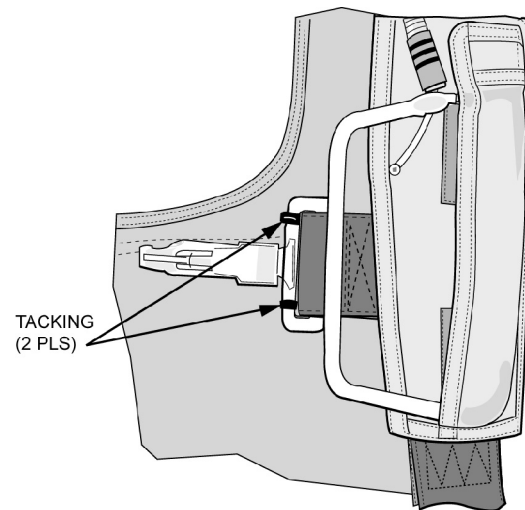


Figure 3. Chest Strap Snap Ejector Strap Stiffener Tacking (Front View)

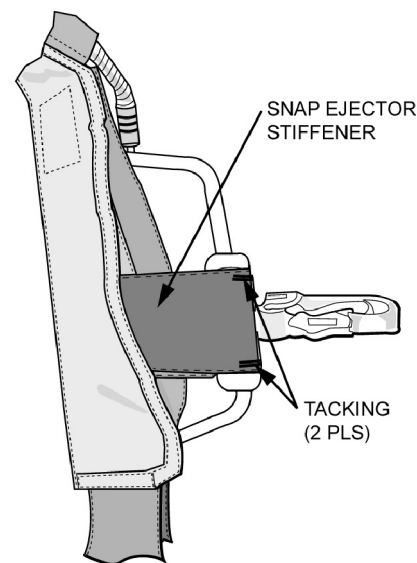


Figure 4. Chest Strap Snap Ejector Strap Stiffener Tacking (Back View)

c. Replace comfort pad per this WP.

## 7. RIPCORDER PIN SECURE TIE REPLACEMENT.

### Support Equipment Required

Part Number Nomenclature

----- Needle, Sewing Curved

## Materials Required

Specification or  
Part Number

Nomenclature

V-T-295

Thread, Nylon,  
Size A, Type I or II,  
Class A

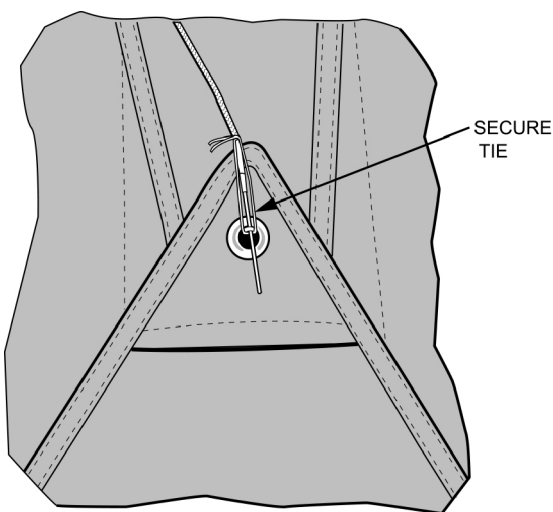
A-A-52080-B-2

Tape, Lacing & Tying,  
Finish B, Size 2,  
Type I, Natural

a. Cut tacking securing tuck flaps to top closing flap two places. Remove broken thread from ripcord pin.

b. Position ripcord pin so it is fully seated when taper on pin is touching or 1/4-in. from top edge of grommet.

c. Using a 12-in. length of size A thread, single and waxed, form lark's head knot above ripcord pin ferrule. Tie two half hitches around ripcord cable above ripcord pin ferrule. Separate thread and route one thread under ripcord pin and against closing loop, tie with a surgeon's knot, followed by a square knot followed by a binders knot. Trim off excess thread (Figure 5).

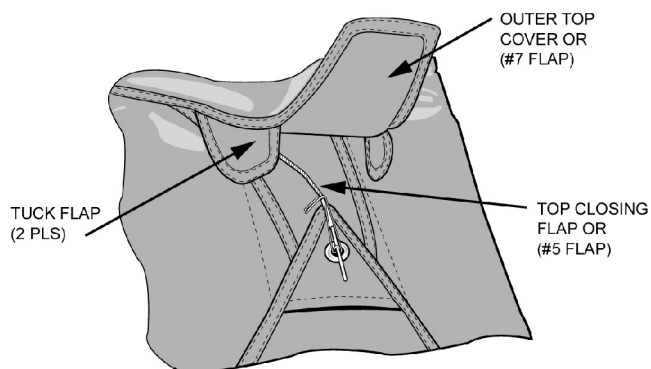


**Figure 5. Ripcord Secure Tie**

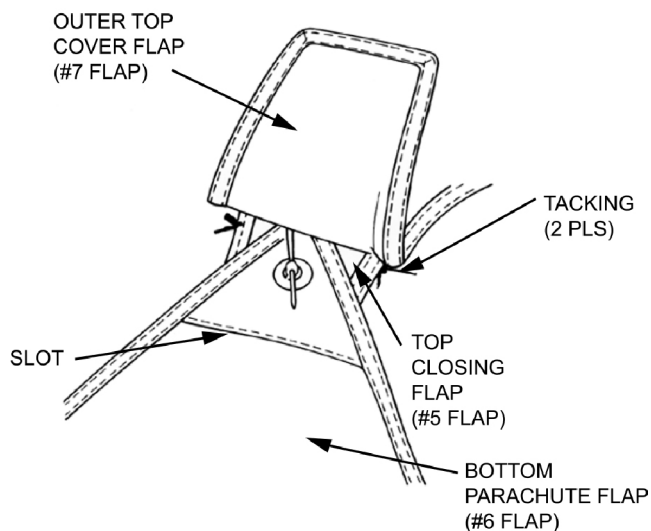
## WARNING

Do not tack the tuck flap to bottom parachute flap. Failure to follow this warning will result in parachute container not opening.

d. Tack using Tape, Lacing & Tying 12-in. long and a curved needle. Tack through tuck flap seam on outer top cover flap to top closing flap seam, using one turn, single, tied with a surgeon's knot, followed by a square knot. Trim off excess. Repeat process on other side (Figures 6 and 7). (QA)



**Figure 6. Tacking Tuck Flaps**



**Figure 7. Tacking Tuck Flaps**

e. Insert outer top cover flap end into bottom parachute flap slot.

## 8. RIPCORD HOUSING TACKING REPLACEMENT.

### Support Equipment Required

Part Number

Nomenclature

-----

Needle, Sewing

### Materials Required

Specification or  
Part Number

Nomenclature

A-A-52080-B-2

Tape, Lacing & Tying  
Finish B, Size 2,  
Type I, Natural

a. Tack using Tape, Lacing & Tying 12-in. long, and a needle. Tack ripcord housing end to tack loop next to ripcord handle, ensure ferrule is even with tack loop edge. Tie through tack loop and around housing using three turns, single, tied with a surgeon's knot, followed by a square knot. Trim off excess lace (Figure 8).

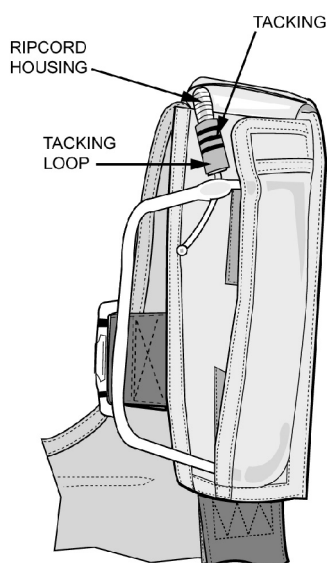


Figure 8. Tacking Ripcord Housing

## 9. RAPIDE LINK TORQUE AND SEALING REPLACEMENT.

### Support Equipment Required

Part Number

Nomenclature

OEX100

Wrench combination  
5/16-in.

TMRX10

Crowfoot, Socket Wrench  
5/16-in.

TQS6

Driver, Torque, in-lbs.

### Materials Required

Specification or  
Part Number

Nomenclature

F-900 Torque Seal (Color Optional)

Sealing Compound

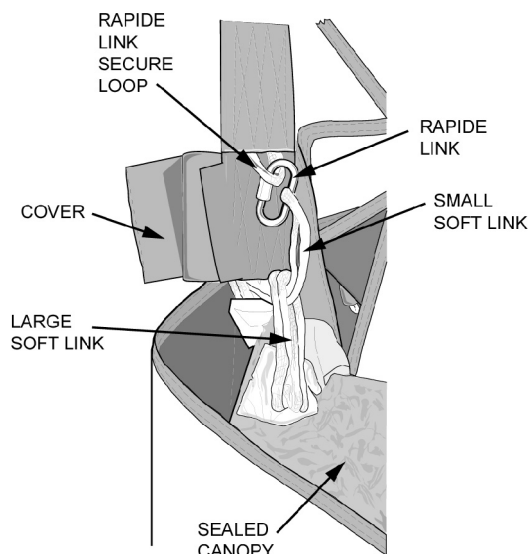


Figure 9. Rapide Link

a. Using 5/16-in. wrench, break loose nut on Rapide link and back it off (Figure 9).

b. Clean off old sealing compound from Rapide link.

c. Hand-tighten Rapide link nut.

d. Torque Rapide link to  $10 \pm 2$  in-lbs (value has been computed already). (QA)

### NOTE

Ensure that sealing compound is applied to the thread side of the Rapide link nut.

e. Apply sealing compound to nut and thread area on Rapide link.

f. Secure Rapide link in place with cover and secure to hook fastener.

g. Close shoulder cover and secure pile to hook fastener.

## 10. SNAP EJECTOR REPLACEMENT.

### 11. Snap Ejector Removal.

### Support Equipment Required

Specification or  
Part Number

Nomenclature

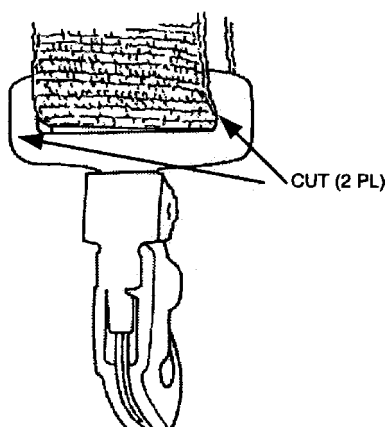
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Bolt cutter

**CAUTION**

Do not nick or cut the webbing. Any nick or cut on webbing from bolt cutter is cause for replacing the harness/container.

- a. Using bolt cutters, cut snap ejector on both sides of webbing slot. Remove snap ejector (Figure 10).



**Figure 10. Snap Ejector Removal**

**12. Snap Ejector Installation.**

**Support Equipment Required**

Specification or Part Number	Nomenclature
68D37721-3	Snap Ejector, w/removable pin
-----	Screwdriver, Flat

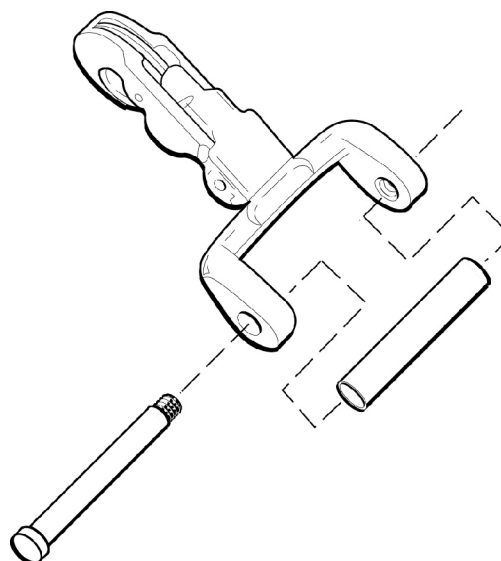
**Materials Required**

Specification or Part Number	Nomenclature
MIL-S-22473	Sealing Compound

- a. Remove screw pin from ejector snap.
- b. Insert roller through webbing loop in chest or leg strap.

- c. Apply one drop of sealing compound to first three threads of screw pin.

- d. Insert webbing between snap ejector prongs. Insert screw pin through ejector snap prongs and roller, and then tighten screw pin (Figure 11).



**Figure 11. Snap Ejector Installation**

**13. COMFORT PAD REPLACEMENT.**

**Support Equipment Required**

Specification or Part Number	Nomenclature
-----	Needle, Sewing
-----	Scissors

**Materials Required**

Specification or Part Number	Nomenclature
A-A-52080-B-2	Tape, Lacing & Tying Finish B, Size 2, Type I, Natural

**14. Comfort Pad Removal.**

- a. Cut tacking securing comfort pad to snap ejector (4 places) (Figure 12).

15. Comfort Pad Replacement.

a. Using Tape, Lacing & Tying 10-in. long and a needle. Tack replacement comfort pad to snap ejector in 4 places using one turn, doubled, tied with a surgeon's knot, followed by a square knot. Trim off excess. Repeat for remaining tacks (Figure 12).

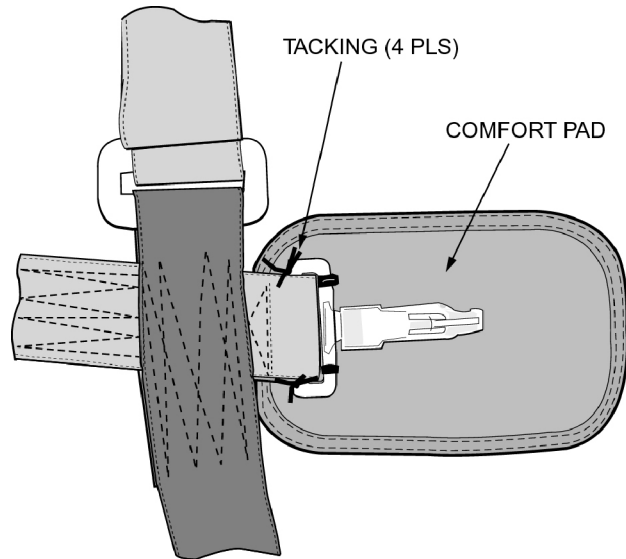


Figure 12. Comfort Pad Replacement

16. COMFORT PAD TACKING REPLACEMENT.

Support Equipment Required

Specification or Part Number	Nomenclature
-----	Needle, Sewing
-----	Scissors

Materials Required

Specification or Part Number	Nomenclature
A-A-52080-B-2	Tape, Lacing & Tying Finish B, Size 2, Type I, Natural

a. Using Tape, Lacing & Tying 10-in. long and a needle. Tack replacement comfort pad to snap ejector in four places using one turn, doubled, tied with a surgeon's knot, followed by a square knot. Trim off excess. Repeat for remaining tacks (Figure 12).

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## INTERMEDIATE AND DEPOT MAINTENANCE

## ASSEMBLE/DISASSEMBLE PROCEDURES

## A/P22P-21 CREW BACKPACK ASSEMBLY

## PART NO. 3615AS0100-9

## List of Effective Work Package Pages

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## Reference Material

Intermediate and Depot Maintenance, Repair Procedures, A/P22P-21 Crew Backpack Assembly	.....	WP 027 03
Organizational, Intermediate and Depot Maintenance, Illustrated Parts Breakdown, A/P22P-21 Crew Backpack Assembly	.....	WP 027 04
Organizational, Intermediate and Depot Maintenance, Parachute Loft Requirements/Administration	.....	WP 003 00

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## Record of Applicable Technical Directives

None

## 1. GENERAL.

2. This Work Package (WP) provides assemble and disassemble instructions for the A/P22P-21 Crew Backpack Assembly.

3. The A/P22P-21 Crew Backpack Assembly consists of assembling and disassembling of components. There is no packing of the main canopy. The packer should refer to WP 003 00 for any additional parachute loft requirements and administration instructions.

4. Quality Assurance (QA) points are included in the packing procedures. When a procedural step is followed by (QA), a quality assurance requirement exists. Witnessing of the QA step may be delayed by QA, if their satisfactory completion is verified in a later step.

## 5. PRELIMINARY PROCEDURES.

### Support Equipment Required

Part Number	Nomenclature
DPP-50	Tester, Spring Resiliency
S7320	Leverage Closing Device
OEX100	Wrench Combination 5/16-in.
TMRX10	Crowfoot, Socket Wrench 5/16-in.
TQS6	Driver, Torque, in-lbs.
-----	Temporary Closing Pin
-----	Needle, Sewing Curved
-----	Scissors
-----	Ruler, 12-in.
-----	Pull-up Cord 100 lb
■ Refer to WP 005 00	Roll Bar

### Materials Required

Specification or Part Number	Nomenclature
A-A-52080-B-2	Tape, Lacing & Tying Finish B, Size 2, Type I, Natural

V-T-295

Thread, Nylon,  
Size A, Type I or II,  
Class A

F-900 Torque Seal (Color Optional)      Sealing Compound

3516AS0570-1      Closing Loop Assembly

## 6. LAYOUT/DISASSEMBLE PARACHUTE ASSEMBLY.

### CAUTION

When performing disassembling procedures watches and rings must be removed to prevent puncturing or tearing of the sealed canopy assembly bag.

a. Position harness/container on packing table with bottom edge of harness/container facing packer.

b. Remove outer top cover flap from slot on bottom parachute flap.

c. Cut tacking securing tuck flap to top closing flap (2 places).

d. Open outer top cover flap. Remove cut tacking.

### CAUTION

When opening parachute container care must be taken to prevent pilot parachute from tearing the vacuum seal initiators.

e. Remove ripcord handle from ripcord pocket. Place one hand over ripcord pin, with firm pressure. Pull ripcord handle to extract ripcord pin from closing loop. Maintain control of the pilot parachute as it exits through the container flaps and fully extended.

f. Remove pilot parachute from parachute container and position it next to parachute container. Open parachute container flaps, and both shoulder flaps.

g. Remove thread from ripcord pin.

DELETED

h. Loosen Lark's head knot on pilot parachute. Route bottom of pilot parachute through large loop of pilot parachute bridle cord. Remove pilot parachute bridle cord from pilot parachute loop.



**CAUTION**

When separating the pilot parachute bridle cord from the sealed canopy bridle cords care must be taken to prevent tearing the vacuum seal initiators.

i. Loosen Lark's head knot on pilot parachute bridle cord and sealed canopy bridle cords. Remove pilot parachute bridle cord from four large loops on the sealed canopy bridle cord.

**NOTE**

Do not remove the four (4) sealed canopy bridle cords. These will be shipped with the sealed canopy assembly.

Deleted.

j. Deleted.

k. Deleted.

l. Carefully lift and slide the sealed canopy assembly forward to expose securing loops (2 places).

**CAUTION**

Do not puncture sealed canopy assembly while performing step m.

m. Cut tacking (2 places) at the bottom corners on harness/container securing sealed canopy assembly to harness/container (Figure 1). Remove cut tacking.

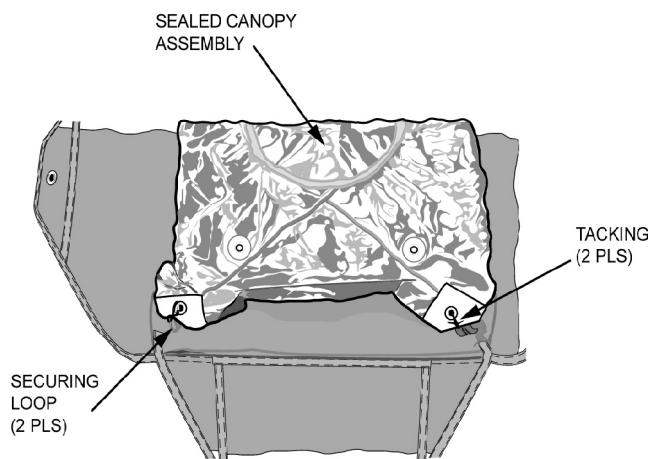
n. Open cover securing Rapide link (Figure 2).

**CAUTION**

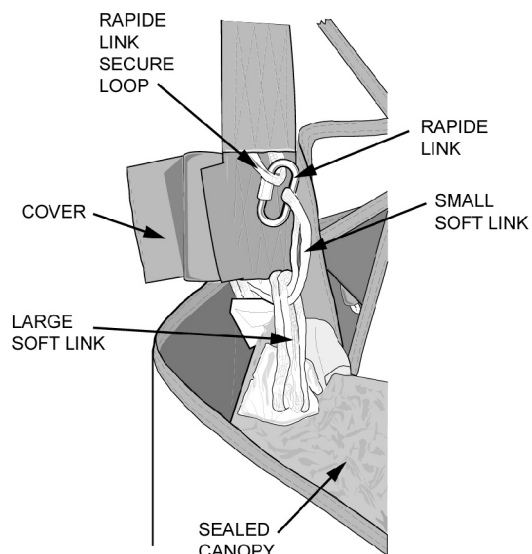
Care must be used when removing small soft link from Rapide link. Rapide link nut must be backed off completely to prevent fraying or tearing of the small soft link.

o. Using 5/16-in. wrench, break loose the nut on Rapide link. Back off nut and remove small soft link from Rapide link. Leave Rapide link attached to Rapide link secure loop.

p. Repeat step n and o for opposite side.



**Figure 1. Cut Sealed Canopy Assembly Tacking**



**Figure 2. Rapide Link**

q. Remove small soft link from large soft link. Slowly pull and remove large soft link from sealed canopy assembly hole.

r. Repeat step q for opposite side.

### CAUTION

Sealed canopy assembly is easy to puncture or tear when not protected. Special precaution for storage of the sealed canopy assembly is important. Do not store in dirt or grit contaminated area. A soft, smooth, clean, dry storage area is required.

s. Remove sealed canopy assembly (PCU-71/P22P-21) with sealed canopy bridle cords installed and forward to supply for disposition.

t. Remove and discard closing loop assembly.

## 7. INSPECTION (SPECIAL).

a. Scheduled replacement of the Sealed Canopy Assembly (PCU-71/P22P-21) is 2008 days.

## 8. SERVICE LIFE CHECK AND CONFIGURATION UPDATING.

### NOTE

Unless otherwise noted, parachute component life shall start on the month of the date of manufacture and expire on the last day of that month.

a. All internal service life components, including cartridges, shall be replaced if service life expires prior to the next repack cycle. Repack cycles may be shortened to correspond to the first component that is expiring prior to the next inspection cycle. An external overage component (i.e. Parachute Harness Sensing Release Unit Cartridge) can be replaced without a parachute repack.

### NOTE

Upon initiation of any Quality Deficiency Report (QDR), contact the In-Service Support Team at NAWCWD, China Lake, CA.

b. When replacing an external overage component without a parachute repack, draw a single red line through any information pertaining to that component on the Parachute Record (OPNAV 4790/101). The replacement component will be annotated on the next available line. The QA who witnessed the task shall apply the QA stamp to the right of the entry and complete the VIDS/MAF (OPNAV 4790/60).

c. A parachute assembly may be opened to permit compliance with a Technical Directive. After completion of directive, the parachute assembly repack cycle may be re-based if all parachute components have the

necessary life available or may be returned with the original repack date in order to keep it aligned with the actual aircraft inspection cycle.

d. When a component reaches the service/total life limit, it shall be returned to supply for disposition.

e. If parts received from supply are lacking a date of manufacture and are new in manufacturer's packaging, they may be used for one complete repack cycle, then removed. Place "No Date of Manufacture" in the Date of Manufacture's block on the Parachute Record (OPNAV 4790/101). Submission of a Quality Deficiency Report (QDR) shall follow each occurrence.

f. Check date Placed-In-Service and date of manufacture on each parachute component for service life as follows:

Nomenclature	Total Life (Yr)
Harness/Container Assembly	14
Pilot Parachute Assembly	14
Pilot Parachute Bridle Cord	14
Sealed Canopy Bridle Cords	14
Sealed Canopy Assembly	5 1/2

(1) Check markings for completeness, legibility, and accuracy with information on parachute record. (QA)

(2) Compare configuration of parachute assembly to that shown WP 027 04 Illustrated Parts Breakdown.

## 9. INSPECTION OF PILOT PARACHUTE AND PILOT PARACHUTE BRIDLE CORD.

a. Inspect fabric surfaces and seams for cuts, tears, burns, fraying, and loose or broken stitching.

b. Inspect seam area at crown for seam separation.

c. Inspect coil spring assembly for distortion, cracks, crimped ferrule secure, and corrosion.

d. Inspect loose or broken tacking (8 places) at bottom of coil spring assembly.

e. Inspect pilot parachute bridle cord for cuts, fraying, loose or broken stitching.

## 10. INSPECTION OF SEALED CANOPY ASSEMBLY AND SEALED CANOPY BRIDLE CORDS.

a. Inspect replacement sealed canopy assembly vacuum bag for softness (indicating the sealed assembly has an air leak), cuts, tears, or punctures.

**CAUTION**

If initiator cuts are missing do not use sealed canopy assembly.

Care must be taken when verifying the initiator cuts.

**NOTE**

If red tape piece(s) are missing on initiator cuts, still use sealed canopy assembly but verify initiator cuts have been made in heat seal seam.

b. Verify that 15 red tape pieces are present to protect initiator cuts. (QA)

(1) Five (5) red tape pieces on top edge (soft link end).

(2) Three (3) red tape pieces on left side.

(3) Three (3) red tape pieces on right side.

(4) Four (4) red tape pieces on top, next to 4 sealed canopy bridle cord attachment grommets.

c. Deleted.

d. Deleted.

e. Inspect sealed canopy bridle cords for cuts, fraying, and loose or broken stitching.

**11. INSPECTION OF HARNESS/CONTAINER AND SOFT LINK.**

a. Inspect webbing for contamination, rust at points of contact with metal parts, cuts, fading, wear, fraying, abrasions, and loose or broken stitching.

b. Deleted.

c. Inspect adjustable v-rings for damage, corrosion, and security of attachment.

d. Inspect parachute harness snap ejectors and quick adjusters for damage, corrosion, security of attachment, and ease of operation.

e. Inspect Rapide links for damage, corrosion, bent, and ease of operation.

f. Ensure Rapide link is a size #4.

g. Inspect container fabric for seam separation, loose or broken stitching, cuts, tears, contamination, deterioration, and wear.

h. Inspect flap grommets for security of attachment, cracks, bent, and corrosion.

i. Inspect soft link cords for cuts, wear, fraying, and loose or broken stitching.

j. Inspect comfort pads for cuts, tears, contamination, deterioration, wear, and broken tracking.

**12. INSPECTION OF RIPCORDER ASSEMBLY AND RIPCORDER HOUSING.**

a. Inspect cable for corrosion, bends, fraying, broken strands, and security of swaged terminal ball.

b. Inspect locking pin for bends or cracks.

c. Inspect grip for bends, cracks, and corrosion.

d. Inspect housing for corrosion, bends, loose ferrules, breaks, and cracks.

e. Inspect ripcorder housing for tacking on both ends.

f. Inspect ripcorder pocket for proper securing of the ripcorder grip.

**13. INSPECTION OF CLOSING LOOP.****NOTE**

Closing loop shall be replaced each time the container assembly is opened.

a. Inspect replacement closing loop for cuts, fraying, and loose or broken stitching and washer is attached.

b. Perform closing loop measurement on replacement closing loop. Measure from the top of washer to the top of closing loop. Measurement shall be 2 1/4-in.  $\pm$  1/8-in. (QA)

**14. FABRICATION OF CLOSING LOOP.**

a. Fabricate replacement closing loop per WP 027 03.

**15. ASSEMBLE PARACHUTE ASSEMBLY.****CAUTION**

When performing assembly procedures watches and rings must be removed to prevent puncturing or tearing of the sealed canopy assembly bag.

**16. INSTALLATION OF RIPCORDER.**

a. Route ripcorder pin and cable through ripcorder housing.

**NOTE**

Ensure wide end of grip goes into pocket.

b. Secure ripcord handle in ripcord pocket.

**17. INSTALLATION OF SEALED CANOPY ASSEMBLY.**

a. Position harness/container on packing table with flaps open and bottom edge of harness/container facing packer.

b. Turn bottom launch flap (#2 flap) and bottom closing flap (#6 flap) under the harness/container to expose two securing loops.

**CAUTION**

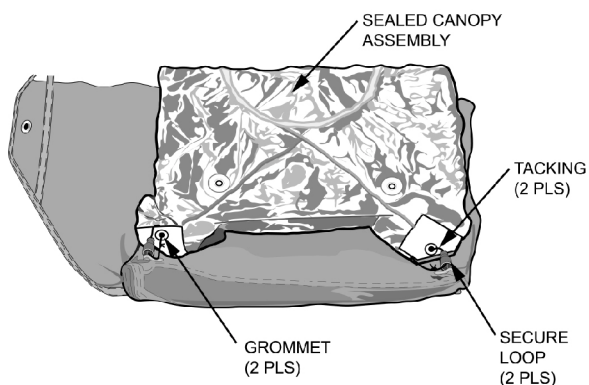
When installing sealed canopy assembly into container care must be taken to prevent punctures or tears.

c. Install sealed canopy assembly (PCU-71/P22P-21) into compartment of harness/container with labeling facing down, and taped corners with no grommets towards top of container.

**NOTE**

Carefully fold left and right edges of bag material downward over sides.

d. Tack bottom grommet on sealed canopy assembly to harness/container securing loop, using Tape, Lacing & Tying 25-inches long, making two turns, doubled. Route Tape, Lacing & Tying through harness/container, secure loop, up through the grommet, and back through the harness/container, secure loop, and back up through the grommet. Pull snug. Tie with a surgeon's knot, followed by a square knot. Trim off excess 1/2-inch from knot (Figure 3).



**Figure 3. Tacking Sealed Canopy Assembly**

e. Repeat step d for opposite side. (QA)

f. Return bottom launch flap (#2 flap) and bottom closing flap (#6 flap) on harness/container to normal position.

**WARNING**

Failure to connect soft links to Rapide link will cause a malfunction in the deployment of the system.

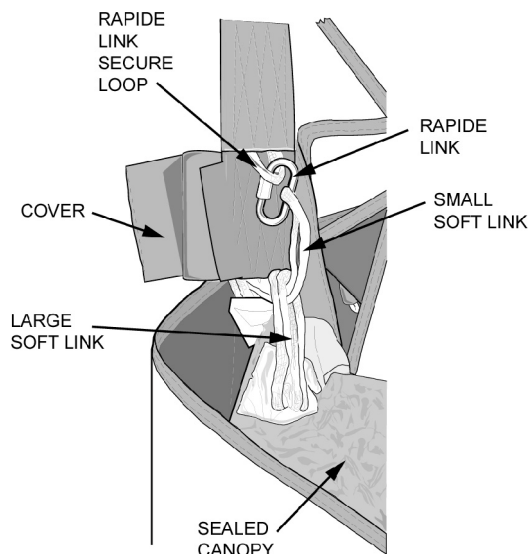
g. Connect soft link to sealed canopy assembly by routing 12-in. long pull-up cord through large soft link loop and up through the bottom of the sealed canopy assembly taped hole. Pull large soft link 4-inches through sealed canopy assembly taped hole. Ensure no twists are in the large soft link, and riser.

h. Repeat step g for opposite side.

**CAUTION**

Care must be used when routing Rapide link through small soft link to prevent fraying or tearing of the link. Rapide link nut must be backed off completely.

i. Route small soft link through large soft link and connect to Rapide link. Ensure no twists are in the small soft link and Rapide link secure loop. Hand tighten nut (Figure 4).



**Figure 4. Soft Link Routing**

j. Repeat step i for opposite side.

k. Torque Rapide link to  $10 \pm 2$  in-lbs. (value has been computed already). (QA)

l. Repeat step k for opposite side.

**NOTE**

Ensure that sealing compound is applied to the thread side of the Rapide link nut.

m. Apply sealing compound to nut and thread area on Rapide link.

n. Repeat step m for opposite side.

o. Allow sealing compound to dry thoroughly, close cover. (QA)

**18. SEALED CANOPY BRIDLE CORDS.**

**CAUTION**

Care must be taken not to tear the initiator cuts when attaching sealed canopy bridle cords to sealed canopy assembly.

a. Verify that bridle cords are present and installed correctly. The small loops should be routed down through grommets, bridle cord big loop passed through small loop, and pulled forming a loose Lark's head knot.

b. Deleted.

**19. ATTACHING PILOT PARACHUTE BRIDLE CORD.**

**CAUTION**

Care must be taken not to tear the initiator cuts when attaching pilot parachute bridle cord to the sealed canopy bridle cords.

**NOTE**

When routing the pilot parachute bridle cord start at the upper right hand corner and work clockwise.

a. Route small loop on pilot parachute bridle cord through the four large loops on the sealed canopy bridle cords.

b. Pass large loop on pilot parachute bridle cord through the small loop on pilot parachute bridle cord to form a Lark's head knot. Pull snug.

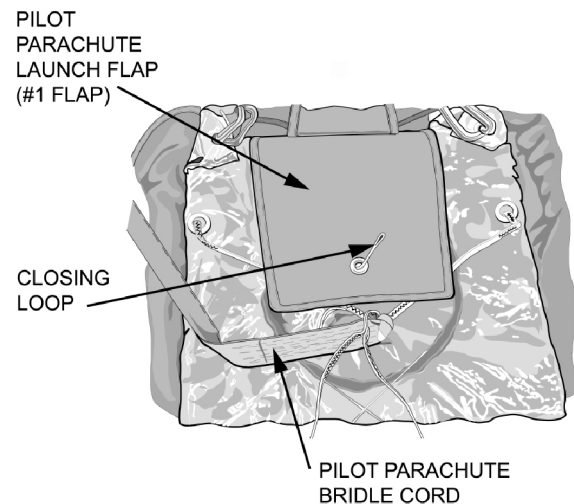
**20. ATTACHING PILOT PARACHUTE.**

a. Route large loop of pilot parachute bridle cord through pilot parachute loop. Take large loop on pilot parachute bridle cord and pass it over the top cap of the pilot parachute. Pass the entire pilot parachute through large loop of pilot parachute bridle cord to form a Lark's head knot. Pull snug. (QA)

**21. INSTALLATION OF CLOSING LOOP.**

a. Deleted.

b. Install closing loop in top pilot parachute launch flap (#1 flap) by inserting from bottom up through grommet (Figure 5).



**Figure 5. Install Closing Loop**

**22. CLOSING HARNESS/CONTAINER ASSEMBLY.**

**NOTE**

The following steps will require the use of the tape card to ensure that all red tape pieces are accounted for.

a. Position pilot parachute and pilot parachute bridle cord on left side of harness/container.

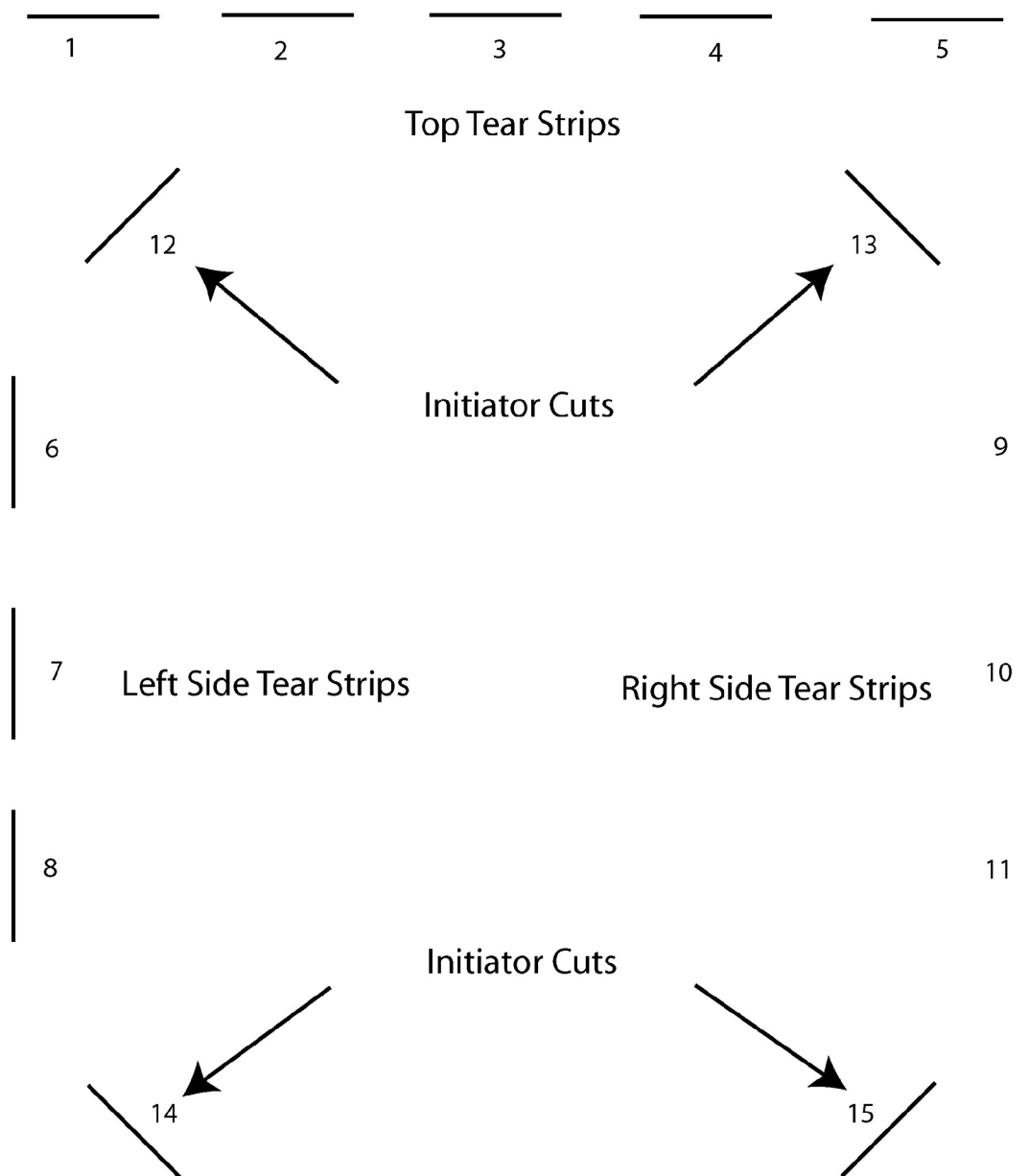
b. Annotate serial number of the sealed canopy assembly on tape card (Figure 6).

c. Remove (3) red tape pieces from the left side of the sealed canopy assembly. Verify small cuts have been made at seam edge, and place red tape pieces in their corresponding space on tape card (Figure 6).

## Tape Card

Place red tape pieces as they are removed

(Retain until assembly is closed and verified by QA)



Sealed Canopy Serial Number \_\_\_\_\_

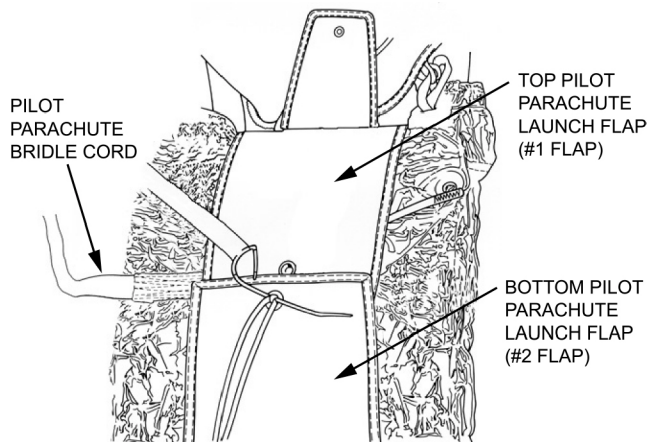
Figure 6. Tape Card

d. Remove (3) red tape pieces from the right side of the sealed canopy assembly. Verify small cuts have been made at seam edge, and place red tape pieces in their corresponding space on tape card (Figure 6).

e. Verify top edge bag material has remained folded up and back. Initiator cuts with (5) red tape pieces should be folded on the top of the sealed canopy assembly. Remove (5) red tape pieces from the top of the sealed canopy assembly. Verify initiator cuts have been made in heat seal seam, and place red tape pieces in their corresponding space on tape card (Figure 6).

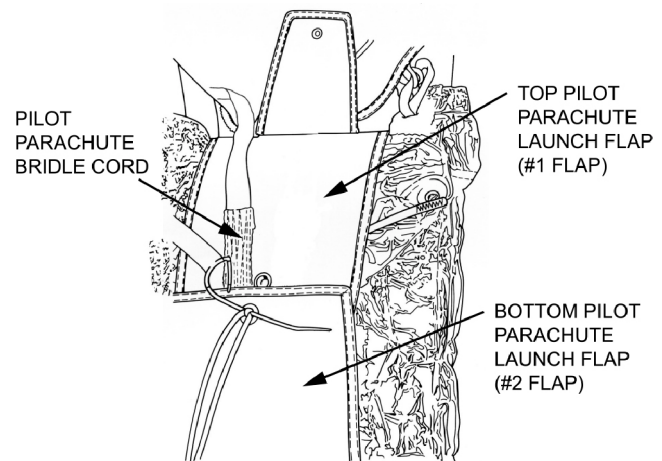
f. Verify (11) red tape pieces on tape card (Figure 6). (QA)

g. Route pull-up cord through the closing loop and up through the grommet of the bottom pilot parachute launch flap (#2 flap). Pull the closing loop through the bottom pilot parachute launch flap grommet and secure with a temporary closing pin (Figure 7).



**Figure 7. Closing the Bottom Pilot Parachute Launch Flap (#2 flap)**

h. Route pilot parachute bridle cord up between bottom and top pilot parachute launch flap (#2 and #1 flaps) on left side of grommet, forward (Figure 8).



**Figure 8. Routing Pilot Parachute Bridle Cord**

**NOTE**

A helper will be required to compress and stabilize the pilot parachute.

i. Route pull-up cord up through the center of the pilot parachute and out the top grommet.

j. Stand pilot parachute on the center of the pilot parachute launch flaps (#1 and #2 flaps).

k. Route pilot parachute bridle cord attached to the pilot parachute forward remove twists in bridle cord.

l. While helper compresses and stabilizes the pilot parachute, remove temporary closing pin, pull closing loop up through pilot parachute grommet. Secure with a temporary closing pin.

m. While helper stabilizes the pilot parachute, pull pilot parachute netting and canopy free from spring (Figure 9).



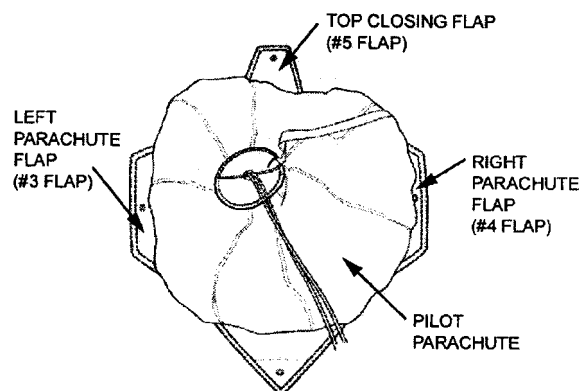


Figure 9. Separate Netting and Canopy From Spring

n. While helper stabilizes the pilot parachute, starting at the top, roll the pilot parachute netting and canopy under to approximately 2-in. from the edge of the pilot parachute center cap (Figure 10).

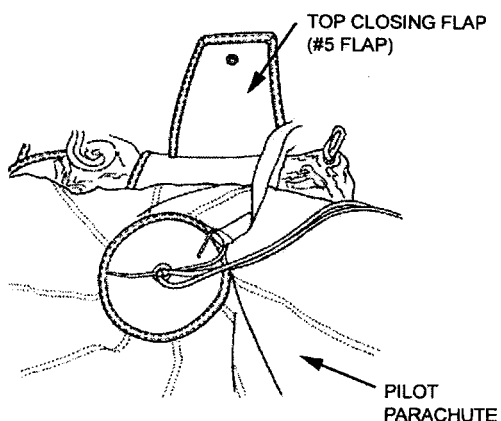


Figure 10. Roll Pilot Parachute Netting

o. Roll bottom pilot parachute netting and canopy under to approximately 2-in. from the edge of the pilot parachute center cap (Figure 11).

p. Roll left pilot parachute netting and canopy under to approximately 3-in. from the edge of the pilot parachute center cap (Figure 11).

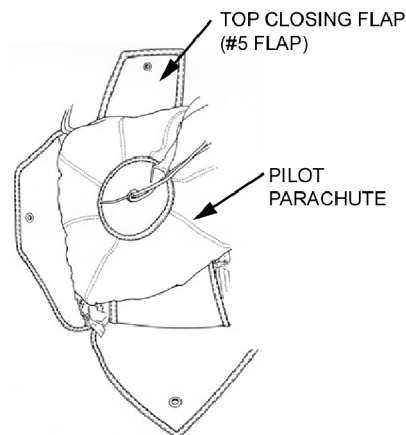


Figure 11. Roll Pilot Parachute Netting

q. Roll right pilot parachute netting and canopy under to approximately 3-in. from the edge of the pilot parachute center cap.

**CAUTION**

Care must be taken when removing red tape from main initiator cuts, as vacuum will be lost if torn.

r. Remove four (4) red tape pieces from the main initiator cuts. Place red tape pieces in their corresponding space on tape card (Figure 6). (QA)

s. Verify (15) red tape pieces on tape card (Figure 6). (QA)

t. Ensure initiator cuts lay flat. They should be carefully folded down over edges, with no tension or tears past the inboard tear marks.

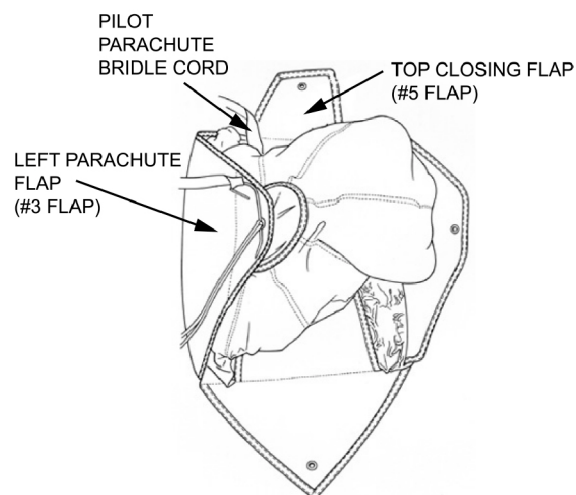
u. While helper stabilizes the pilot parachute, take left parachute flap (#3 flap) and bring it up to the pilot parachute grommet.

**NOTE**

The following steps may require the use of a roll bar or leverage closing device.

v. Route pull-up cord from bottom of flap #3, up through grommet, and pull closing loop up. Remove temporary closing pin, and pull closing loop up through grommet. Secure with temporary closing pin (Figure 12).

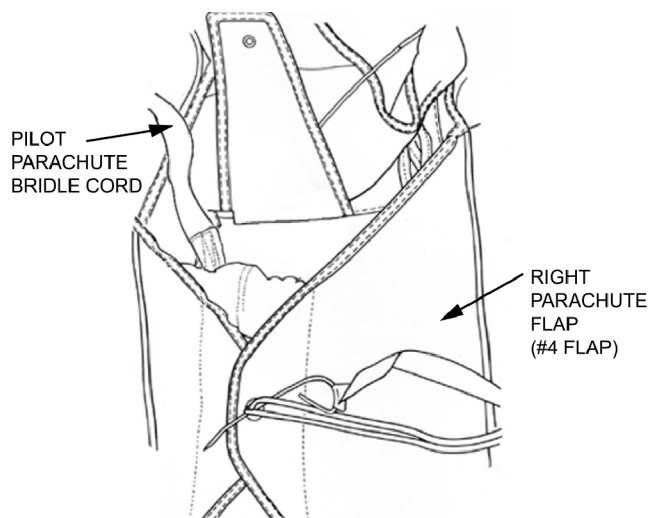




**Figure 12. Close Left Parachute Flap (#3 Flap)**

w. While helper stabilizes the pilot parachute, take right side parachute flap (#4 flap) and bring it up to the pilot parachute grommet.

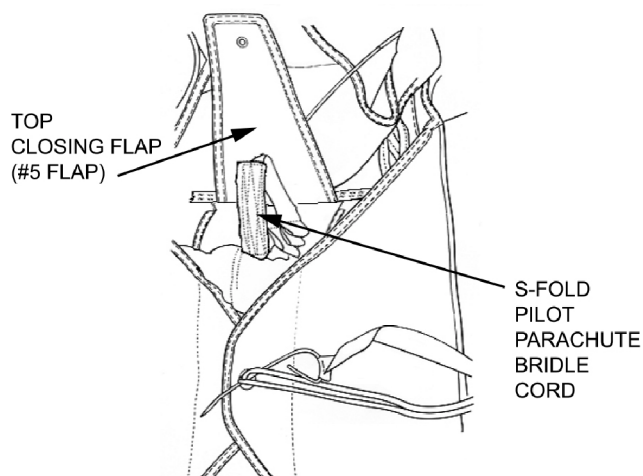
x. Route pull-up cord from bottom of flap #4, up through grommet, and pull closing loop up. Remove temporary closing pin, and pull closing loop up through grommet. Secure with temporary closing pin (Figure 13).



**Figure 13. Close Right Parachute Flap (#4 Flap)**

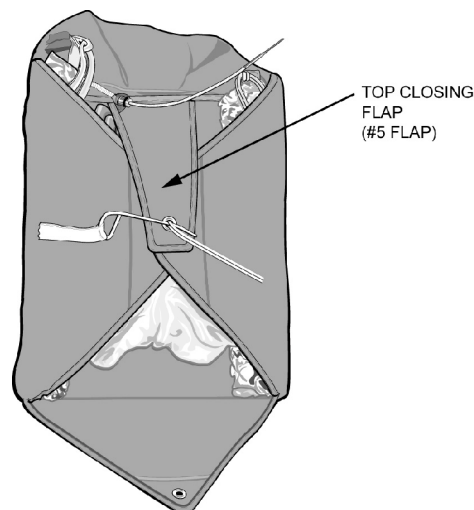
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y. Take pilot parachute bridle cord that is attached to the sealed canopy bridle cords and S-fold it back and forth 4-in. in length and position in the middle under top closing flap (#5 flap) (Figure 14).



**Figure 14. S-Fold Pilot Parachute Bridle Cord**

z. Route pull-up cord from bottom of flap #5, up through grommet, and pull closing loop up. Remove temporary closing pin, and pull closing loop up through grommet. Secure with temporary closing pin (Figure 15).

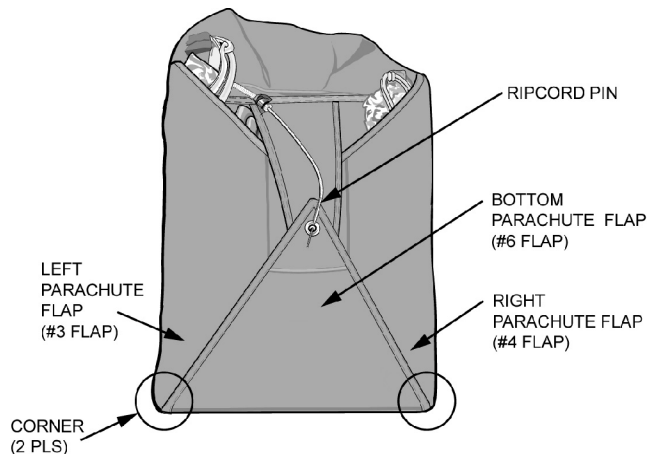


**Figure 15. Close Top Closing Flap (#5 Flap)**

**NOTE**

Prior to closing bottom parachute flap (#6 flap) ensure pilot parachute canopy material is tucked under left and right parachute flaps (#3 and #4 flaps).

aa. Close bottom parachute flap (#6 flap), ensuring that left and right parachute flap (#3 and #4 flaps) corners are tucked under the bottom parachute flap (Figure 16).



**Figure 16. Close Bottom Parachute Flap (#6 Flap)**

ab. Route pull-up cord from bottom of flap #6, up through grommet, and pull closing loop. Remove temporary closing pin, and pull closing loop up through grommet. Secure with ripcord pin. Cut pull-up cord next to closing loop. Remove pull-up cord SLOWLY (Figure 16).

ac. Using hands only, dress up parachute assembly. Ensure that all sealed canopy bag material and pilot parachute material are not exposed between flap assemblies. Lightly tuck as required.

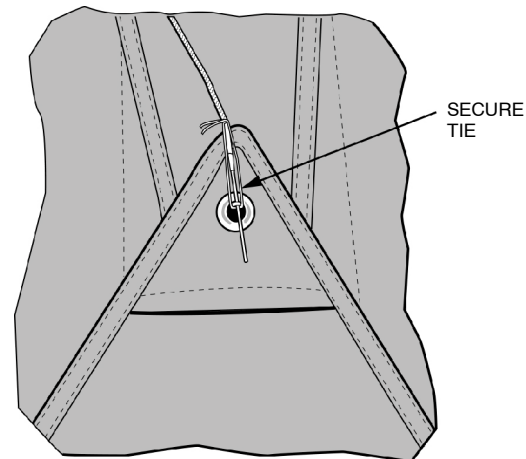
### 23. RIPCORD PIN PULL TEST.

Deleted

- Set spring tester to zero.
- Helper shall hold parachute steady on packing table and observe pin movement.
- Remove ripcord handle from pocket.
- Attach spring tester to ripcord handle with nylon cord.
- Apply a straight steady pull on ripcord handle until initial movement of ripcord pin is observed. Maximum allowable force is 20 lbs. (QA)
- Reposition ripcord pin so it is 1/2-in. ( $\pm 1/16$ -in.) beyond the outer edge of the grommet.
- Stow ripcord handle in ripcord pocket.

### 24. FINAL CLOSING.

a. Using a 12-in. length of size A thread, single and waxed, form Lark's head knot above ripcord pin ferrule. Tie two half hitches around ripcord cable above ripcord pin ferrule. Separate thread and route one thread under ripcord pin and against closing loop, tie with a surgeon's knot, followed by a square knot followed by a binders knot. Trim off excess thread (Figure 17).

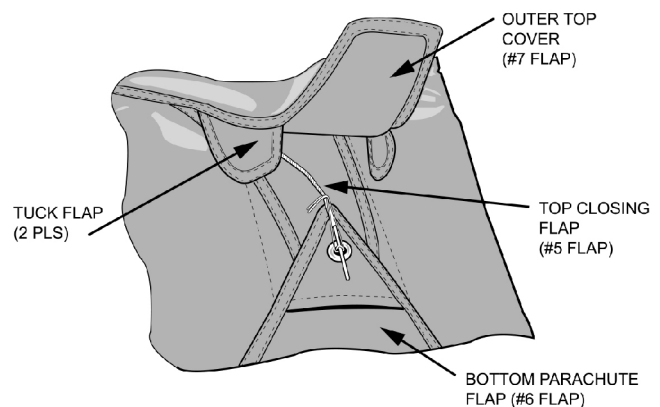


**Figure 17. Ripcord Secure Tie**

b. Stand parachute up, close shoulder cover, and secure hook fastener to pile fastener.

c. Repeat step b for opposite side.

d. Secure tuck flap under top closing flap (#5 flap) and pull down on outer top cover end (#7 flap) to help position flap (Figure 18).

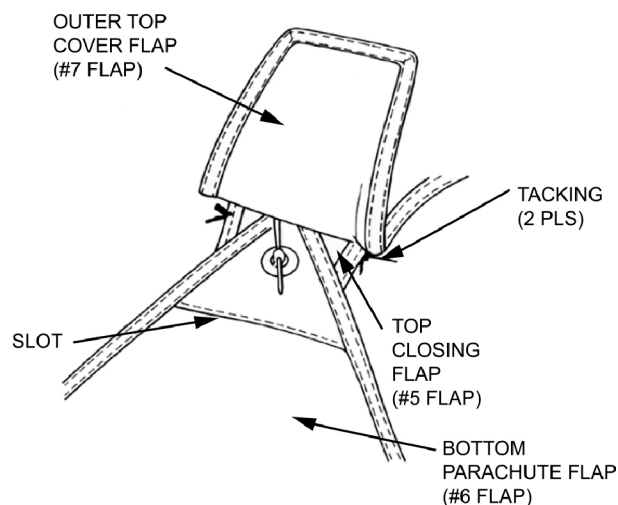


**Figure 18. Outer Top Cover Flap (#7 Flap) Closing**

**WARNING**

Do not tack tuck flap to bottom parachute flap. Failure to follow this warning will result in parachute container not opening.

e. Tack using Tape, Lacing & Tying 12-inches long and a curved needle. Tack through tuck flap seam on outer top cover to top closing flap seam using one turn, single, tied with a surgeon's knot, followed by a square knot. Trim off excess. Repeat for other side (Figure 19). (QA)



**Figure 19. Tacking Tuck Flaps**

f. Insert outer top cover flap end into bottom parachute flap slot.

## 25. FINAL CHECKOUT

a. Account for all packing tools. (QA)

b. Inspect packed A/P22P-21 Crew Backpack Assembly for general condition. (QA)

c. Verify all (15) red tape pieces on tape card are accounted for (Figure 6). (QA)

d. Tape card may be discarded at this time. (QA)

e. Packer shall complete and sign Parachute Record (OPNAV 4790/101). (QA)

f. QA inspector shall inspect completeness and accuracy of all entries on Parachute Record (OPNAV 4790/101).

g. QA inspector shall sign Parachute Record (OPNAV 4790/101).

h. Send a (legible) copy of the new Parachute Record to: Commander, Code 461000D, NAVAIRWAR-CENWPNDIV, 1900 N Knox Road Stop 6206, China Lake, CA 93555-6106.

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## INTERMEDIATE AND DEPOT MAINTENANCE

## REPAIR PROCEDURES

## A/P22P-21 CREW BACKPACK ASSEMBLY

## PART NO. 3615AS0100-9

## List of Effective Work Package Pages

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## Reference Material

Intermediate and Depot Maintenance Assemble/Disassemble Procedures, A/P22P-21 Crew Backpack Assembly	WP 027 02
Organizational, Intermediate and Depot Maintenance, Parachute Loft Requirements/Administration	WP 003 00
Organizational Maintenance, Repair Procedures, A/P22P-21 Crew Backpack Assembly	WP 027 01

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## Record of Applicable Technical Directives

None

## 1. INTRODUCTION.

a. This Work Package (WP) contains instructions for the maintenance, repair, replacement, and fabrication of various parachute parts or subassemblies to ensure that items of equipment remain in a Ready-For-Issue (RFI) status. The maintainer should refer to WP 003 00 for any additional parachute loft requirements and administration instructions. Selected repairs shall be documented on the Parachute Record (OPNAV 4790/101).

## 2. PARACHUTE ASSEMBLY.

## 3. SEALED CANOPY ASSEMBLY.

### WARNING

Do not handle the (pillowed) canopy assembly any more than is required to prepare for shipping. A receiving inspection will be performed on all failed canopy assemblies to determine reason for failure.

a. Upon receipt of a parachute assembly that has lost its vacuum, remove per WP 027 02.

b. Prepare Sealed Canopy Assembly for shipment and turn into supply for disposition.

c. Order replacement Sealed Canopy Assembly and install per WP 027 02.

d. After sealed canopy replacement, the original Parachute Record (OPNAV 4790/101) will no longer reflect the proper serial number or the current Packer/Quality Assurance (QA) inspector. It will be necessary to perform the following:

(1) On the original Parachute Record (OPNAV 4790/101), draw a single red line through any information that pertains to the old sealed canopy.

(2) The replacement sealed canopy information will be annotated on the next available line of the Parachute Record (OPNAV 4790/101).

(3) The QA who witnessed the task shall apply the QA stamp to the right of the entry and attach the new sealed canopy Parachute Record (OPNAV 4790/101) to the back of the original Parachute Record (OPNAV 4790/101).

(4) Complete and sign the VIDS/MAF.

## 4. REPLACEMENT PROCEDURES.

## 5. REPLACEMENT OF PILOT PARACHUTE TACKING.

### Support Equipment Required

Part Number	Nomenclature
-----	Needle, Sewing

### Materials Required

Specification or Part Number	Nomenclature
A-A-52080-B-2	Tape, Lacing & Tying, Finish B, Size 2, Type I, Natural

a. Tack using Tape, Lacing & Tying 6-in. long and a needle. Tack through pilot parachute seam to bottom coil on spring using two turns, single tied with a surgeons knot, followed by a square. Trim off excess.

## 6. REPLACEMENT OF PILOT PARACHUTE.

a. Pilot Parachute Removal.

### NOTE

To prevent double Lark's head knot, ensure pilot parachute is routed through large loop of pilot parachute bridle cord correctly.

(1) Loosen Lark's head knot on pilot parachute. Route bottom of pilot parachute through large loop of pilot parachute bridle cord. Remove pilot parachute bridle cord from pilot parachute loop.

b. Pilot Parachute Installation.

(1) Route large loop of pilot parachute bridle cord through pilot parachute loop. Take large loop on pilot parachute bridle cord and pass it over the top cap of the pilot parachute. Pass the entire pilot parachute through large loop of pilot parachute bridle cord to form a Lark's head knot. Pull tight.

(2) Mark date Placed-In-Service on pilot parachute per this WP. (QA)

(3) Make proper entries on Parachute Record (OPNAV 4790/101).

**7. REPLACEMENT OF PILOT PARACHUTE BRIDLE CORD.****a. Pilot Parachute Bridle Cord Removal.****CAUTION**

When separating the pilot parachute bridle cord from the sealed canopy bridle cords care must be taken to prevent tearing the vacuum seal initiators.

(1) Loosen Lark's head knot on pilot parachute bridle cord and sealed canopy bridle cords. Remove pilot parachute bridle cord from four large loops on the sealed canopy bridle cords.

**(2) Pilot Parachute Bridle Cord Installation.****CAUTION**

Care must be taken not to tear the initiator cuts when attaching pilot parachute bridle cord to sealed canopy assembly.

**NOTE**

When routing the pilot parachute bridle cord start at the upper right hand corner and work clockwise.

a. Route small loop on pilot parachute bridle cord through the four large loops on the sealed canopy bridle cords.

b. Pass large loop on pilot parachute bridle cord through the small loop on pilot parachute bridle cord to form a Lark's head knot. Pull tight.

c. Mark date Placed-In-Service on bridle cord per this WP. (QA)

d. Make proper entries on Parachute Record (OPNAV 4790/101).

**8. REPLACEMENT OF SEALED CANOPY BRIDLE CORDS.****a. Sealed Canopy Bridle Cords Removal.****CAUTION**

When separating the sealed canopy bridle cords from the sealed canopy assembly care must be taken to prevent tearing the vacuum seal initiators.

(1) Loosen the Lark's head knot on sealed canopy bridle cord and remove.

(2) Repeat sub-step (1) for the remaining three sealed canopy bridle cords.

**b. Sealed Canopy Bridle Cords Installation.****CAUTION**

Care must be taken not to tear the initiator cuts when attaching sealed canopy bridle cords to sealed canopy assembly.

(1) Route small loop on sealed canopy bridle cord through top of grommet. Route large loop through small loop on sealed canopy bridle cord to form a Lark's head knot. Pull tight.

(2) Repeat sub-step (1) for the remaining three sealed canopy bridle cords.

(3) Make proper entries on Parachute Record (OPNAV 4790/101).

**9. HARNESS/CONTAINER REPAIR.****10. REPLACEMENT OF HARNESS/CONTAINER TACKING.**

a. Refer to WP 027 01 for procedures.

**11. REPLACEMENT OF CHEST STRAP SNAP EJECTOR TACKING.**

a. Refer to WP 027 01 for procedures.

**12. REPLACEMENT OF RIPCORD PIN SECURE TIE.**

a. Refer to WP 027 01 for procedures.

### 13. REPLACEMENT OF RIPCORD HOUSING TACKING.

#### Support Equipment Required

Part Number	Nomenclature
-----	Needle, Sewing

#### Materials Required

Specification or Part Number	Nomenclature
A-A-52080-B-2	Tape, Lacing & Tying Finish B, Size 2, Type I, Natural

a. Tack using Tape, Lacing & Tying 12-in. long, tack ripcord housing end to tack loop. Ensure ferrule is even with tack loop edge, tie through tack loop and around housing using three turns, single, tied with a surgeon's knot, followed by a square knot. Trim off excess (Figures 1 and 2).

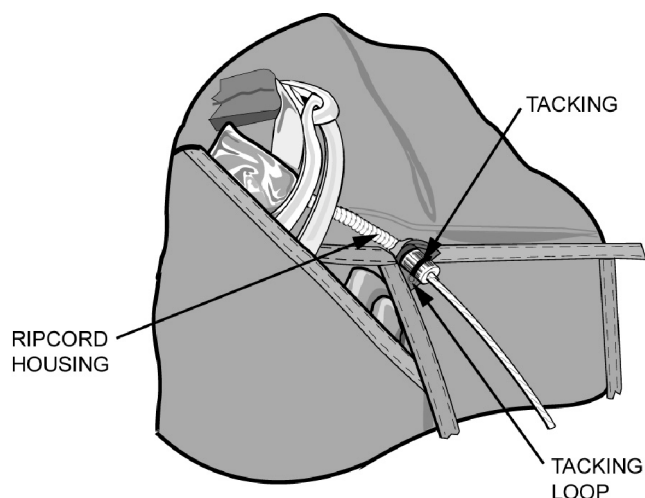


Figure 1. Tacking Ripcord Housing

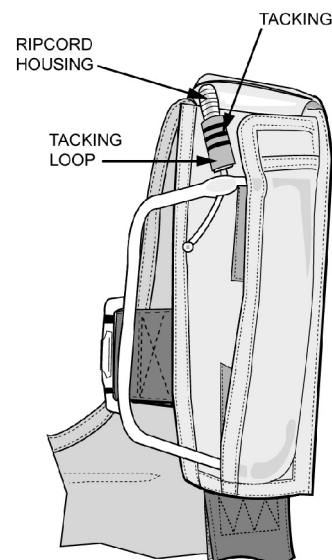


Figure 2. Tacking Ripcord Housing

### 14. REPLACEMENT OF RIPCORD HOUSING.

#### a. Ripcord Housing Removal.

##### Support Equipment Required

Specification or Part Number	Nomenclature
-----	Temporary Closing Pin
-----	Scissors

(1) Cut tacking securing tuck flap to top closing flap (two places). Cut secure tie on ripcord pin. Undue both shoulder covers. Open outer top cover flap (#7 flap).

(2) Press down over ripcord pin and insert temporary closing pin through closing loop and remove ripcord pin.

(3) Cut ripcord housing tacking (two places). Remove ripcord assembly and ripcord housing. (Retain ripcord assembly).

#### b. Ripcord Housing Installation.

##### Support Equipment Required

Specification or Part Number	Nomenclature
-----	Curved Needle
-----	Scissors



## Materials Required

Specification or  
Part Number

Nomenclature

V-T-295

Thread, Nylon,  
Size A, Type I or II,  
Class A

A-A-52080-B-2

Tape, Lacing & Tying  
Finish B, Size 2,  
Type I, Natural

(1) Insert ripcord housing through ripcord housing channel and tacking loops.

(2) Tack using Tape, Lacing & Tying 12-in. long. Tack ripcord housing ends to tack loop, ensure ferrule is even with tack loop edge using three turns, single, tied with a surgeon's knot followed by a square knot. Trim off excess.

(3) Repeat sub-step (2) for other end.

### NOTE

Ensure wide end of grip goes into pocket.

(4) Insert ripcord pin through ripcord housing. Secure ripcord handle into ripcord pocket. Push down over temporary closing pin and insert ripcord pin into closing loop. Remove temporary closing pin.

(5) Using a 12-in. length of size A thread, single and waxed, form Lark's head knot above ripcord pin ferrule. Tie two half hitches around ripcord cable above ripcord pin ferrule. Separate thread and route one thread under ripcord pin and against closing loop, tie with a surgeon's knot, followed by a square knot, followed by a binders knot. Trim off excess thread (Figure 3).

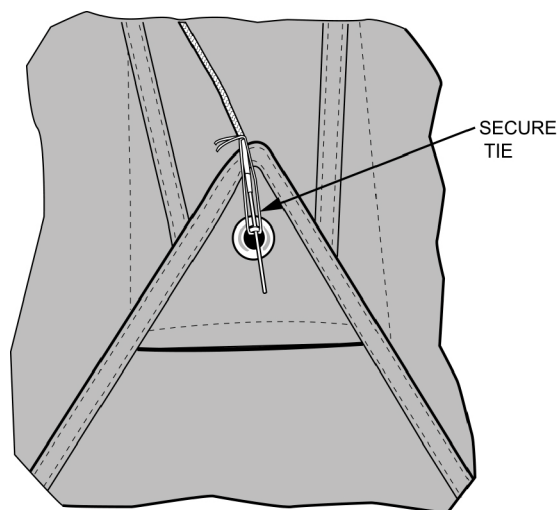


Figure 3. Ripcord Pin Secure Tie

## WARNING

Do not tack tuck flaps to bottom parachute flap. Failure to follow this warning will result in parachute container not opening.

(6) Tack using Tape, Lacing & Tying 12-in. long and a curved needle. Tack through tuck flap seam on outer top cover flap (#7 flap) to top closing flap (#5 flap) seam, using one turn, single, tied with a surgeon's knot, followed by a square knot. Trim off excess. Repeat process on other side (Figures 4 and 5). (QA)

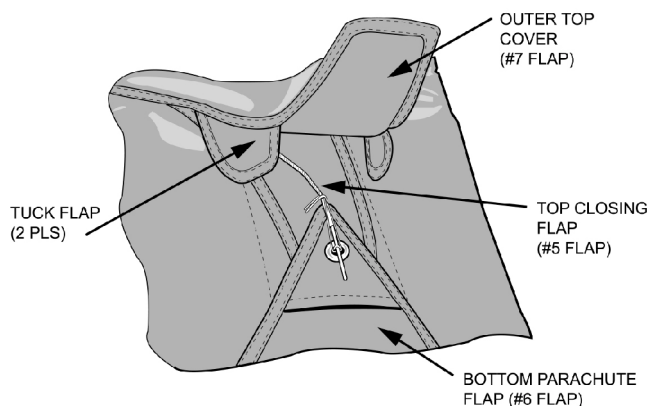


Figure 4. Outer Top Cover Flap (#7 Flap) Closing

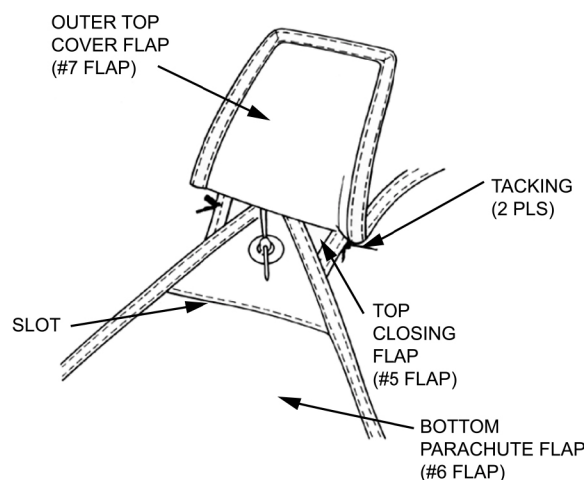


Figure 5. Tacking Tuck Flaps

## 15. REPLACEMENT OF SNAP EJECTOR.

a. Refer to WP 027 01 for procedures.

## 16. REPLACEMENT OF RAPIDE LINK.

### Support Equipment Required

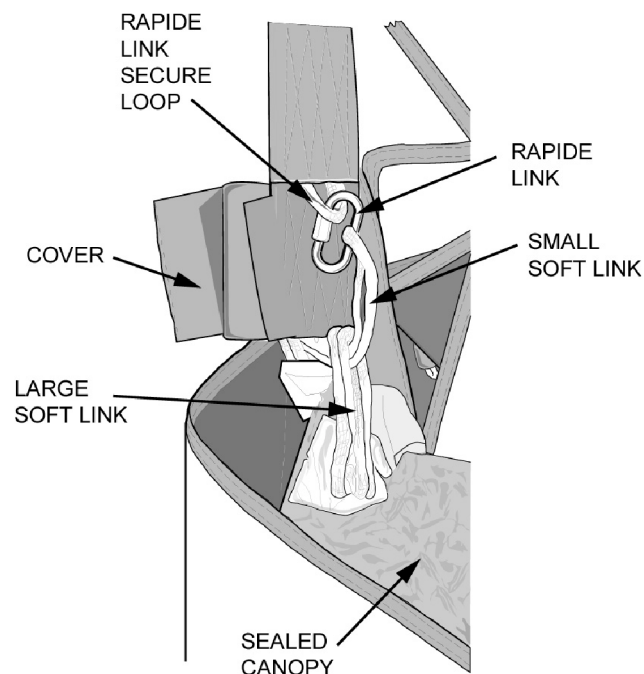
Specification or Part Number	Nomenclature
OEX100	Wrench, Combination, 5/16-in.

#### a. Rapide Link Removal.

### CAUTION

Care must be used when removing Rapide link from Rapide link secure loop and small soft link. Rapide link nut must be backed off completely to prevent Rapide link secure loop and small soft link from tearing or fraying.

- (1) Using 5/16-in. wrench, brake loose the Rapide link nut. Back off nut and remove the Rapide link from the small soft link and Rapide link secure loop. Discard Rapide link (Figure 6).



**Figure 6. Rapide Link**

#### b. Rapide Link Installation.

### Support Equipment Required

Specification or Part Number	Nomenclature
TMRX10	Crowfoot, Socket Wrench, 5/16-in.
TQS6	Driver, Torque, in-lbs.

### Materials Required

Specification or Part Number	Nomenclature
F-900 Torque Seal (Color Optional)	Sealing Compound
A-A-52080-B-2	Tape, Lacing & Tying, Finish B, Size 2, Type I, Natural

### WARNING

Soft links must be connected with size #4 Rapide Link to function properly.

Failure to connect soft links to Rapide link will cause a malfunction in the deployment of the system.

### CAUTION

Care must be used when routing Rapide link through Rapide link secure loop and small soft link to prevent fraying or tearing of the secure loop and small link. Rapide link nut must be backed off completely.

- (1) Connect Rapide link to Rapide link secure loop (Figure 6).
- (2) Make sure small soft link is passed through large soft link (Figure 6).
- (3) Connect small soft link to Rapide link, ensure no twists are in the small soft link, and Rapide link secure loop. Hand tighten nut (Figure 6).
- (4) Torque Rapide link to  $10 \pm 2$  in-lbs. (value has been computed already). (QA)

### NOTE

Ensure that sealing compound is applied to the thread side of the Rapide link nut.

(5) Apply sealing compound to nut and thread area on Rapide link.

(6) Secure Rapide link in place with cover and secure to hook fastener.

## 17. REPLACEMENT OF HARNESS/CONTAINER.

### a. Harness/Container Installation.

(1) Transfer A/P22P-21 crew backpack serial number from old or damaged harness/container to new replacement harness/container.

(2) Apply markings Placed-In-Service and serial number per this WP. (QA)

(3) Make proper entries on Parachute Record (OPNAV 4790/101). (QA)

## 18. REPLACEMENT OF COMFORT PAD.

### a. Refer to WP 027 01 for procedures.

## 19. REPLACEMENT OF COMFORT PAD TACKING.

### a. Refer to WP 027 01 for procedures.

## 20. FABRICATION OF CLOSING LOOP.

### Materials Required

Specification or Part Number	Nomenclature
9512-300-UNT	Cord, Spectra
Suggested Source:	300 lb, Untreated
CSR Inc	
3235 State Road	
Sellersville, PA 18960	
Phone (215) 453-0600	

### a. Cut a length of 300 lb Spectra 14-in. long.

### b. Fold in half, approximately 6 5/8-in.

c. From loop end, mark 5/8-in. on the lower most piece of cord.

### d. Insert bodkin in the lower most end of Spectra.

e. Carefully work the bodkin in the center of Spectra and exit at the 5/8-in. mark.

f. Draw the other end of Spectra back through center of cord. Forming a 5/8-in. loop (Figure 7).

g. Fingertrap shall extend the whole length of cord.

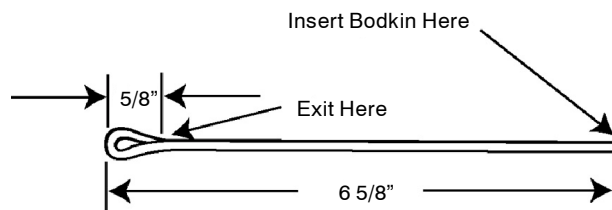


Figure 7. Fabrication of Closing Loop

## 21. ROUTING OF CLOSING LOOP.

a. Route closing loop per illustration (Figure 8).

b. Measure and leave approximately 2 1/8-in. from the washer to the end of the loop.

c. On the back side, form a double overhand knot (Figure 8).

d. Verify measurement.

e. Form an overhand knot behind the double overhand knot (Figure 8).

f. Measure and make any adjustments necessary.

g. Set knots by pretensioning using 240 ± 20 in-lbs. between washer and loop.

h. Verify 2 1/4 ± 1/8-in. from washer to loop end. (QA)

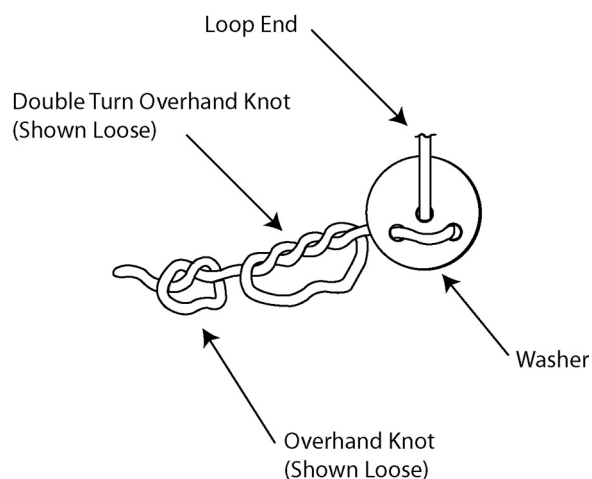


Figure 8. Routing and Tying of the Closing Loop

**22. APPLICATION OF MARKINGS.**

Support Equipment Required

Specification or Part Number	Nomenclature
-----	Marker Permanent, Sharpie Fine Point
-----	Stamp Pad
-----	Rubber Stamp Kit

Materials Required

Specification or Part Number	Nomenclature
MIL-I-6903	Ink, Marking, Parachute Light Blue

a. When a part is Placed-In-Service (PIS), the month/year of the opening of the manufacturer's individual shipping container shall be stamped on the part.

(1) When using a stamp pad, moisten pad with ink. Pad must be evenly coated and free of clots.

(2) Make a test impression to determine correctness of marking and inking.

(3) When adding serial number or Placed-In-Service date make the marking clear and legible.

(4) Stamp parts as follows:

(a) Harness/container:

1. The A/P22P-21 Crew Backpack Assembly system label serial number shall be marked after the title Serial No. using a permanent marker.

2. Placed-In-Service date shall be marked after the initials (PIS) using a permanent marker.

**NOTE**

When stamping canopy material, place paper towels behind area to be stamped to prevent smearing or blotching.

(b) Pilot Parachute: Stamp PIS date under name-plate information. Stamp shall be 1/2-in. high.

(c) Pilot Parachute Bridle Cord: Mark the PIS date after the initials (PIS) using a permanent marker.

(d) Sealed Canopy Assembly: Mark the PIS date after the initials (PIS) using a permanent marker.

## ORGANIZATIONAL, INTERMEDIATE AND DEPOT MAINTENANCE

## ILLUSTRATED PARTS BREAKDOWN

## A/P22P-21 CREW BACKPACK ASSEMBLY

## PART NO. 3615AS0100-9

## List of Effective Work Package Pages

<u>Page No.</u>	<u>Chg. No.</u>	<u>Page No.</u>	<u>Chg. No.</u>	<u>Page No.</u>	<u>Chg. No.</u>	<u>Page No.</u>	<u>Chg. No.</u>
1 .....	9	2 .....	7	3 thru 4 .....	3	5 .....	9

## Reference Material

None

## Alphabetical Index

<u>Title</u>	<u>Page</u>
Introduction .....	1
Service/Total Life .....	1
Usable-On Codes .....	1

## List of Figures

<u>Title</u>	<u>Page</u>
A/P22P-21 Crew Backpack Assembly .....	2

## Record of Applicable Technical Directives

None

**1. INTRODUCTION.**

a. This work package (WP) contains information for ordering and identifying parts for the A/P22P-21 Crew Backpack Assembly (Figure 1).

b. The following usable-on codes apply to this WP:

A - P-3

**2. USABLE-ON CODES.**

a. The usable-on codes in this WP refer to the aircraft applications for the A/P22P-21 Crew Backpack Assembly.

**3. SERVICE/TOTAL LIFE**

a. The service/total life information is contained in WP 027 02.

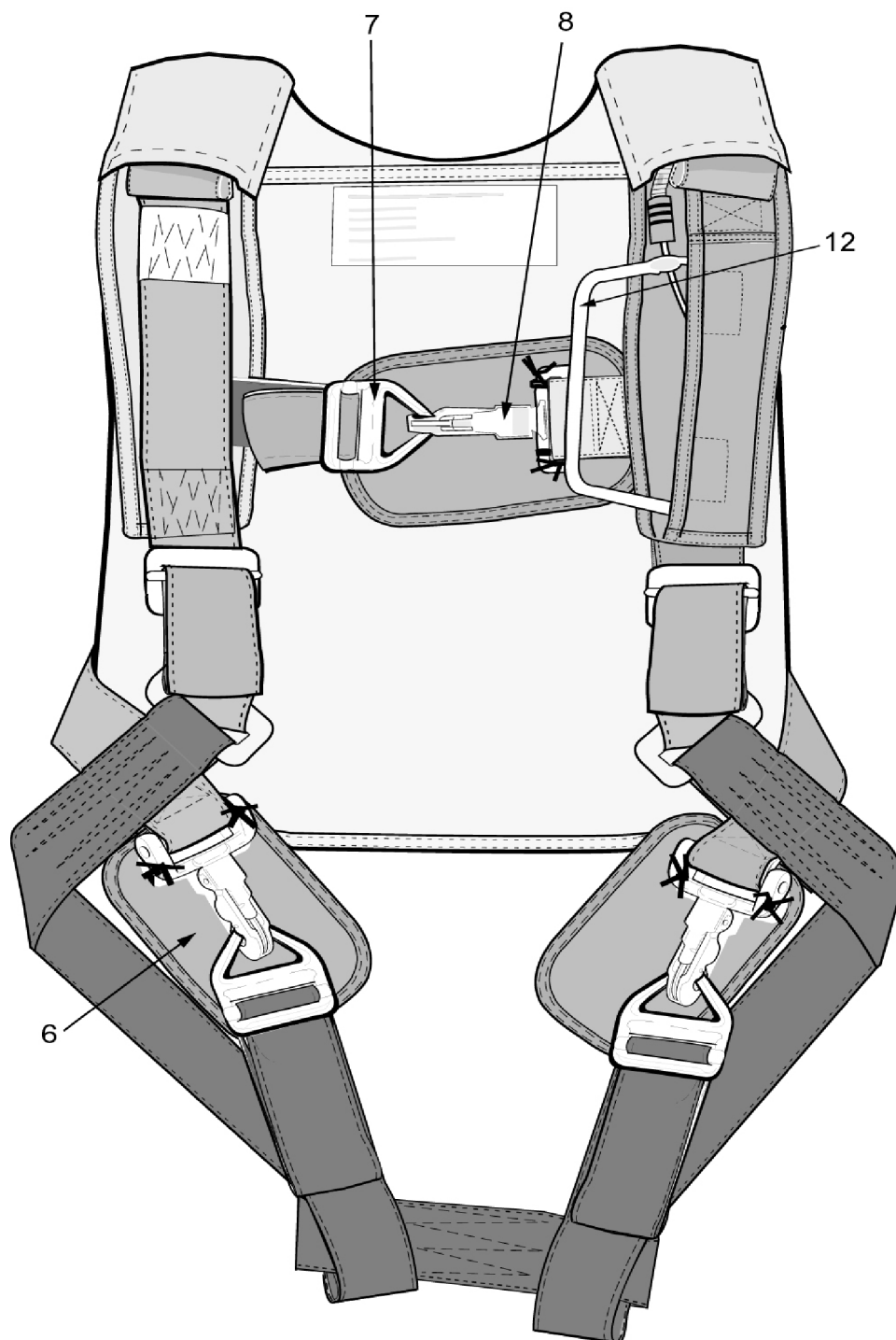


Figure 1. A/P22P-21 Crew Backpack Assembly (Sheet 1 of 4)

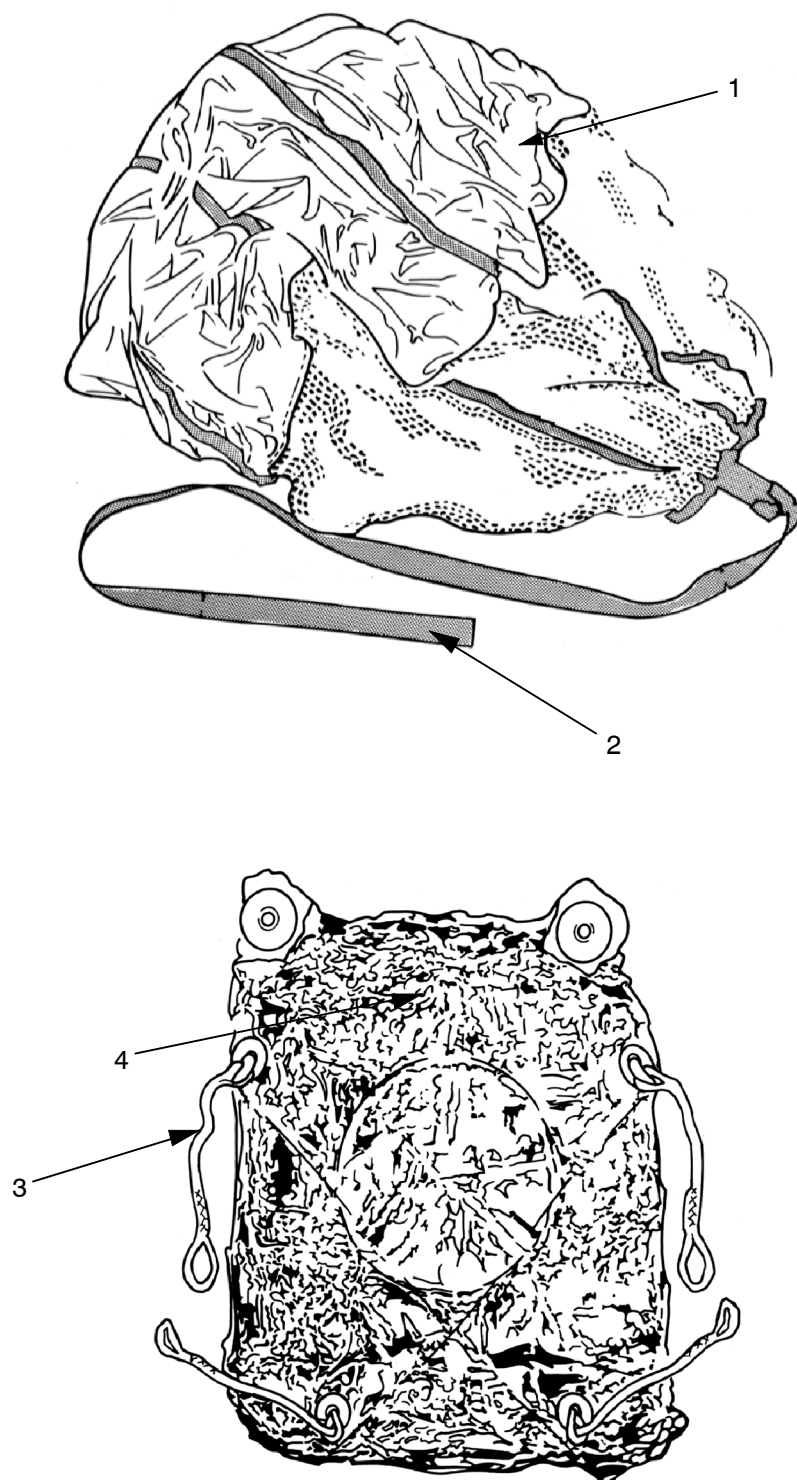


Figure 1. A/P22P-21 Crew Backpack Assembly (Sheet 2 of 4)

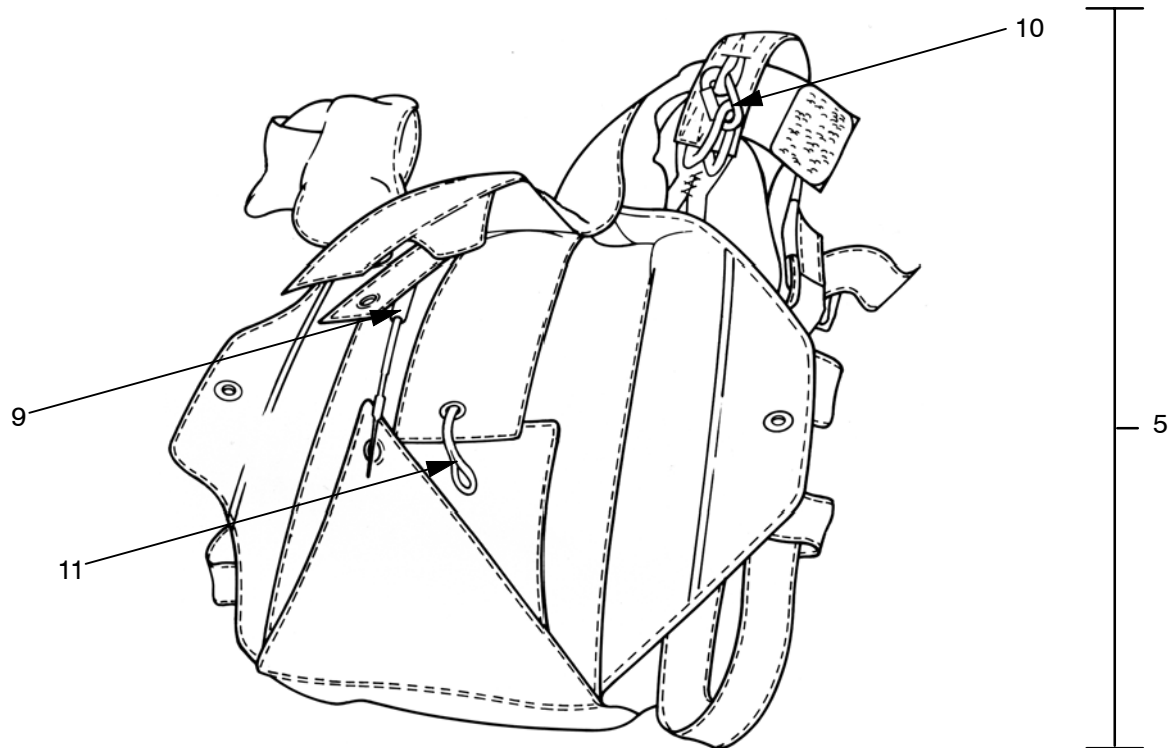


Figure 1. A/P22P-21 Crew Backpack Assembly (Sheet 3 of 4)



INDEX NO.	PART NUMBER	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE	SM&R CODE
.....	3615AS0100-9	CREW BACKPACK ASSEMBLY, A/P22P-21 .....	REF	A	AGGGD
1	3615AS0530-1	• PILOT PARACHUTE ASSEMBLY .....	1		PAGZZ
2	3615AS0510-1	• PILOT PARACHUTE BRIDLE CORD .....	1		PAGZZ
3	3615AS0520-3	• KIT, SEALED CANOPY BRIDLE CORD /SEE NOTE 1/ ..	1		PAGZZ
4	3615AS1000-5	• SEALED CANOPY ASSEMBLY, PCU-71/P22P-21 .....	1		PAGDD
	3615AS1300-3	• • CANOPY ASSEMBLY .....	1		XADDD
5	3615AS2000-7	• HARNESS/CONTAINER ASSEMBLY .....	1		PAGZZ
6	3615AS2010-1	• • COMFORT PADS .....	3		PAOZZ
7	MS27765	• • ADJUSTABLE V-RING .....	3		PAGZZ
8	MS22017	• • QUICK EJECTOR SNAP /SEE NOTE 2/ .....	3		PAGZZ
9	3615AS2165-1	• • HOUSING, RIPCORDER .....	1		PAGZZ
10	3615AS6009-1	• • LINK, RAPIDE (SIZE #4) .....	2		PAGZZ
11	3615AS0570-1	• CLOSING LOOP ASSEMBLY .....	1		PAGZZ
12	3615AS0550-1	• RIPCORDER ASSEMBLY .....	1		PAGZZ

NOTE 1: 3615AS0520-3 CONSISTS OF A KIT OF FOUR SEALED CANOPY BRIDLE CORDS.

NOTE 2: USE PART NUMBER 68D37721-3 AS A REPLACEMENT PART.

Figure 1. A/P22P-21 Crew Backpack Assembly (Sheet 4 of 4)

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